

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT3501860

|                                                                                                                                                                                                 |                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| <b>SUBMISSION TYPE:</b>                                                                                                                                                                         | NEW ASSIGNMENT                                             |
| <b>NATURE OF CONVEYANCE:</b>                                                                                                                                                                    | ASSIGNMENT                                                 |
| <b>CONVEYING PARTY DATA</b>                                                                                                                                                                     |                                                            |
| <b>Name</b>                                                                                                                                                                                     | <b>Execution Date</b>                                      |
| JODY JAMES                                                                                                                                                                                      | 08/27/2015                                                 |
| ROY TORRANCE                                                                                                                                                                                    | 08/27/2015                                                 |
| <b>RECEIVING PARTY DATA</b>                                                                                                                                                                     |                                                            |
| <b>Name:</b>                                                                                                                                                                                    | GULF COAST DOWNHOLE TECHNOLOGIES LLC                       |
| <b>Street Address:</b>                                                                                                                                                                          | 6407 EPPES STREET                                          |
| <b>City:</b>                                                                                                                                                                                    | HOUSTON                                                    |
| <b>State/Country:</b>                                                                                                                                                                           | TEXAS                                                      |
| <b>Postal Code:</b>                                                                                                                                                                             | 77087                                                      |
| <b>PROPERTY NUMBERS Total: 2</b>                                                                                                                                                                |                                                            |
| <b>Property Type</b>                                                                                                                                                                            | <b>Number</b>                                              |
| <b>Patent Number:</b>                                                                                                                                                                           | 7581565                                                    |
| <b>Patent Number:</b>                                                                                                                                                                           | 7954518                                                    |
| <b>CORRESPONDENCE DATA</b>                                                                                                                                                                      |                                                            |
| <b>Fax Number:</b>                                                                                                                                                                              |                                                            |
| <i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i> |                                                            |
| <b>Phone:</b>                                                                                                                                                                                   | 713-514-0137                                               |
| <b>Email:</b>                                                                                                                                                                                   | dmcewing@houstonpatentlaw.com                              |
| <b>Correspondent Name:</b>                                                                                                                                                                      | DAVID MCEWING                                              |
| <b>Address Line 1:</b>                                                                                                                                                                          | PO BOX 70410                                               |
| <b>Address Line 4:</b>                                                                                                                                                                          | HOUSTON, TEXAS 77270                                       |
| <b>NAME OF SUBMITTER:</b>                                                                                                                                                                       | DAVID MCEWING                                              |
| <b>SIGNATURE:</b>                                                                                                                                                                               | /davidmcewing/                                             |
| <b>DATE SIGNED:</b>                                                                                                                                                                             | 08/27/2015                                                 |
|                                                                                                                                                                                                 | This document serves as an Oath/Declaration (37 CFR 1.63). |
| <b>Total Attachments: 5</b>                                                                                                                                                                     |                                                            |
| source=08_27_2015#page1.tif                                                                                                                                                                     |                                                            |
| source=08_27_2015#page2.tif                                                                                                                                                                     |                                                            |
| source=08_27_2015#page3.tif                                                                                                                                                                     |                                                            |
| source=08_27_2015#page4.tif                                                                                                                                                                     |                                                            |



## ASSIGNMENT - WORLDWIDE

This Assignment is between Gulf Coast Downhole Technologies, L.L.C., a Texas limited liability company having an address at 6407 Eppes Street, Houston Texas 77087 ("Assignee"), and Jody James, an individual residing at 2620 Sleepy Hollow, Pearland, TX 77581 ("James"), and Roy Torrance, an individual residing at 2219 Shakespeare Street, Houston, TX 77030 ("Torrance" and together with James, collectively "Assignors").

WHEREAS, Assignors are employees of Assignee and, as employees of Assignee, each of Assignors accepted and agreed to be bound by the obligations of Assignee's employees specified in Assignee's Standards of Conduct ("Standards");

WHEREAS, the "Work Product Ownership" section of the Standards provides that Assignee is the legal owner of the product of each of Assignor's work for Assignee and that all written and electronic documents, audio and video recordings, system code, and also any concepts, ideas or other intellectual property developed by an Assignor for Assignee is the sole and exclusive property of Assignee;

WHEREAS, during their employment with Assignee, Assignors have made, developed, and have certain intellectual property, including, without limitation, that which is disclosed and documented within the patents and patent applications prepared and filed in the Assignor's names set forth on Schedule 1 attached hereto and incorporated herein by reference ("Patent Rights");

WHEREAS, Assignors agree that the Patent Rights and any other inventions, concepts, discoveries, ideas and other intellectual property described herein that Assignors have made, developed or have prior to the date hereof in connection with their employment with Assignee or otherwise relating to the business or products of Assignee should be the property of Assignee; and

WHEREAS, Assignee has requested that Assignors execute this Assignment to confirm each of Assignor's assignment obligations in the Standards and to confirm that all of Assignors' rights, title and interest in and to such Patent Rights and any such other inventions, concepts, discoveries, ideas and other intellectual property Assignors have made, developed or have prior to the last date of signature of this Assignment in connection with their employment with

005402-000027-020001 5

Assignee or otherwise relating to the business or products of Assignee have and are vested in Assignee as of the date of authorship, conception, development and/or discovery.

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Assignors and the Assignee agree that the contents set forth above within the preamble and recitals constitute part of this Agreement and shall be fully enforceable with all other clauses of this Assignment. Further, for such good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Assignors have sold and assigned, and by these presents hereby sell and assign, unto Assignee, its successors, and assigns the entire right, title and interest, so far as concerns the United States and the Territories and Possessions thereof and all foreign countries in and to (to the extent they exist as of the last date of signature of this Assignment) all such inventions, concepts, discoveries, and ideas relating to Assignee's business or products, which Assignors have made, developed, or have during their employment by Assignee, including all Intellectual Property Rights therein, including, without limitation, the Patent Rights and the inventions disclosed in said Patent Rights ("Inventions"), including all divisional, renewal, substitute, continuation, nonprovisionals, continuation-in-parts, and Convention applications based in whole or in part upon said Invention or upon said Application (collectively, "Applications") and any and all letters patent and reissues, reexaminations, reviews and extensions of letters patent granted for said Patent Rights, Inventions or upon said Applications (collectively, "Letters Patent") and every priority right that is or may be predicated upon or arise from said Patent Rights, Inventions, said Applications, and said Letters Patent; said Assignee being hereby authorized to file patent applications in any or all countries on any or all said Inventions in the name of the Assignors or in the name of said Assignee or otherwise as said Assignee may deem advisable, under the International Convention or otherwise; the Commissioner of Patents and Trademarks of the United States of America and the Patent Offices in all foreign countries being hereby authorized to issue or transfer all said Letters Patent to said Assignee in accordance herewith, this Assignment being under covenant, not only that full power to make the same is had by the undersigned Assignors, but also that such assigned right is not encumbered by any grant, license, or other right theretofore given, and that the undersigned will do all acts reasonably serving to ensure that the said Patent Rights, Inventions, Applications and Letters Patent shall be held and enjoyed by said Assignee as fully and entirely as the same could have been held and enjoyed by Assignors if this Assignment had not been made, and particularly

to execute and deliver to said Assignee all lawful documents including petitions, specifications, oaths, assignments, invention disclaimers, declarations, and lawful affidavits in form and substance which may be requested by said Assignee, to furnish said Assignee with all facts relating to said Patent Rights, Inventions, Applications, and Letters Patent or the history thereof and any and all documents, photographs, models, samples or other physical exhibits which may embody said Inventions, and to testify in any proceedings relating to said Patent Rights, Inventions, Applications, and/or Letters Patent; provided, however, that the obligation to testify herein shall be conditioned upon (i) Assignee paying and/or reimbursing Assignors for all reasonable and pre-approved out-of-pocket expenses incurred by Assignors in connection therewith and (ii) Assignors being provided reasonable advance notice of the time and place where any such testimony is to be given and that such time and place be reasonably convenient to the applicable testifying Assignor.

As used herein, "Intellectual Property Rights" means intellectual property of the Assignors as defined below that Assignors have made, developed or have prior to the last date of signature of this Assignment in connection with their employment with Assignee or otherwise relating to the business or products of Assignee should be the property of Assignee: (a) all copyright rights under the copyright laws of the United States and all other countries for the full term thereof (and including all rights accruing by virtue of bilateral or international copyright treaties and conventions), including, but not limited to, all renewals, extensions, reversions or restorations of copyrights now or hereafter provided for by law and all rights to make applications for copyright registrations and recordings, regardless of the medium of fixation or means of expression; (b) all rights to and under all new and useful inventions, discoveries, designs, technology and art, including, but not limited to, all improvements thereof and all know-how related thereto, including all letters patent and patent applications in the United States and all other countries (and all letters patent that issue therefrom) and all reissues, reexaminations, extensions, renewals, divisions and continuations (including continuations-in-part and continuing prosecution applications) thereof, for the full term thereof; (c) all trademark and service mark applications and registrations to issue therefrom under all trademark laws of the United States and all other countries for the full term thereof; (d) Internet domain names and applications therefore and URLs; (e) electronic or other databases, to the extent protected by intellectual property or other law in any jurisdiction; (f) all trade secrets; (g) all confidential information; (h)

all know-how, and (i) all worldwide intellectual property rights, industrial property rights and proprietary rights not otherwise included in the foregoing, including, without limitation, all trade dress, algorithms, concepts, processes, methods and protocols.

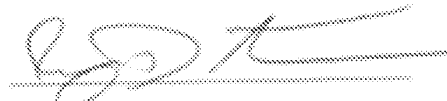
Assignors hereby agree to sign any and all documentation which Assignees deem is necessary or useful to obtain or facilitate the recordal of any and all assignment deeds for the Patent Rights, Inventions, Applications, and/or Letters Patent in the patent and trademark offices of all countries of filing, any and all technical deeds of assignment which will be requested by the relevant authorities in the countries of filing, and any and all powers of attorney which will be requested by the relevant authorities in the countries of filing.

The undersigned hereby grant(s) an authorized representative of Assignee the power to insert in this Assignment any further identification that may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office or any Patent Office in a foreign country for recordation of this Assignment.

Date: 27 Aug 2015

  
Jody James

Date: 27 August 2015

  
Roy P. James

SCHEDULE 1

1. U.S. Patent No. 7,581,565 B1 titled TEAR CORD FOR JACKETED TUBE
2. U.S. Patent No. 7,954,518 B2 titled TEAR CORD FOR JACKETED TUBE
3. Canadian Patent No. 2,721,737 titled TEAR CORD FOR JACKETED TUBE
4. European Patent No. 2 165 043 B1 titled TEAR CORD FOR JACKETED TUBE,  
validated in the following countries: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR,  
GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI,  
SK, TR. (tot. 34 Countries)
5. Brazilian Patent Application No. PI0916301 8 titled TEAR CORD FOR JACKETED  
TUBE



## UNITED STATES PATENT AND TRADEMARK OFFICE

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United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
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Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

| APPLICATION NO. | ISSUE DATE | PATENT NO. | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|------------|------------|---------------------|------------------|
| 12/178,246      | 09/01/2009 | 7581565    | GCDT-01             | 5950             |

26328 7590 08/12/2009  
LAW OFFICE OF DAVID MCEWING  
P.O. BOX 231324  
HOUSTON, TX 77023

### ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

#### **Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)** (application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Roy Torrance, Houston, TX;  
Jody James, Pearland, TX;

07-23-09  
PART B - FEE(S) TRANSMITTAL



Complete and send this form, together with applicable fee(s), to: **Mail Stop ISSUE FEE**  
**Commissioner for Patents**  
**P.O. Box 1450**  
**Alexandria, Virginia 22313-1450**  
 or **Fax (571)-273-2885**

**INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

26328 7590 06/25/2009

LAW OFFICE OF DAVID MCEWING  
 P.O. BOX 231324  
 HOUSTON, TX 77023

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

**Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

|                    |
|--------------------|
| (Depositor's name) |
| (Signature)        |
| (Date)             |

07/23/2009 HDESTA2 00000088 12178246

01 FC:2501 755.00 OP  
 02 FC:1504 300.00 OP

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 12/178,246      | 07/23/2008  | Roy Torrance         | GCDT-01             | 5950             |

TITLE OF INVENTION: TEAR CORD FOR JACKETED TUBE

| APPLN. TYPE    | SMALL ENTITY | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE   |
|----------------|--------------|---------------|---------------------|----------------------|------------------|------------|
| nonprovisional | YES          | \$755         | \$300               | \$0                  | \$1055           | 09/25/2009 |

| EXAMINER           | ART UNIT | CLASS-SUBCLASS |
|--------------------|----------|----------------|
| BRINSON, PATRICK F | 3754     | 138-110000     |

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 David McEwing  
 2 \_\_\_\_\_  
 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☒ Issue Fee
- ☒ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☒ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature David McEwing  
 Typed or printed name David McEwing

Date July 22, 2009  
 Registration No. 31,026

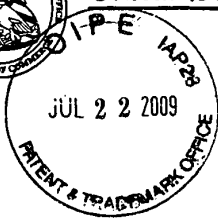
This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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## NOTICE OF ALLOWANCE AND FEE(S) DUE

26328 7590 06/25/2009

LAW OFFICE OF DAVID MCEWING  
P.O. BOX 231324  
HOUSTON, TX 77023

EXAMINER

BRINSON, PATRICK F

ART UNIT PAPER NUMBER

3754

DATE MAILED: 06/25/2009

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

12/178,246

07/23/2008

Roy Torrance

GCDT-01

5950

TITLE OF INVENTION: TEAR CORD FOR JACKETED TUBE

| APPLN. TYPE | SMALL ENTITY | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE |
|-------------|--------------|---------------|---------------------|----------------------|------------------|----------|
|-------------|--------------|---------------|---------------------|----------------------|------------------|----------|

nonprovisional

YES

\$755

\$300

\$0

\$1055

09/25/2009

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS** FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

### HOW TO REPLY TO THIS NOTICE:

#### I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER:** Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.



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NOTICE OF ALLOWANCE AND FEE(S) DUE

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P.O. BOX 231324  
HOUSTON, TX 77023

|                         |              |
|-------------------------|--------------|
| EXAMINER                |              |
| BRINSON, PATRICK F      |              |
| ART UNIT                | PAPER NUMBER |
| 3754                    |              |
| DATE MAILED: 06/25/2009 |              |

| APPLICATION NO.                                 | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-------------------------------------------------|-------------|----------------------|---------------------|------------------|
| 12/178,246                                      | 07/23/2008  | Roy Torrance         | GCDT-01             | 5950             |
| TITLE OF INVENTION: TEAR CORD FOR JACKETED TUBE |             |                      |                     |                  |

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If the SMALL ENTITY is shown as NO:

- A. Pay TOTAL FEE(S) DUE shown above, or
- B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

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# PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**  
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

26328 7590 06/25/2009

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P.O. BOX 231324  
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## Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

|                    |
|--------------------|
| (Depositor's name) |
| (Signature)        |
| (Date)             |

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

12/178,246 07/23/2008 Roy Torrance GCDD-01 5950

TITLE OF INVENTION: TEAR CORD FOR JACKETED TUBE

| APPLN. TYPE    | SMALL ENTITY | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE   |
|----------------|--------------|---------------|---------------------|----------------------|------------------|------------|
| nonprovisional | YES          | \$755         | \$300               | \$0                  | \$1055           | 09/25/2009 |

| EXAMINER           | ART UNIT | CLASS-SUBCLASS |
|--------------------|----------|----------------|
| BRINSON, PATRICK F | 3754     | 138-110000     |

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_
- 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_

Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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| APPLICATION NO.                                                     | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---------------------------------------------------------------------|-------------|----------------------|---------------------|------------------|
| 12/178,246                                                          | 07/23/2008  | Roy Torrance         | GCDT-01             | 5950             |
| 26328                                                               | 7590        | 06/25/2009           | EXAMINER            |                  |
| LAW OFFICE OF DAVID MCEWING<br>P.O. BOX 231324<br>HOUSTON, TX 77023 |             |                      | BRINSON, PATRICK F  |                  |
|                                                                     |             |                      | ART UNIT            | PAPER NUMBER     |
|                                                                     |             |                      | 3754                |                  |
| DATE MAILED: 06/25/2009                                             |             |                      |                     |                  |

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

|                               |                        |                     |  |
|-------------------------------|------------------------|---------------------|--|
| <b>Notice of Allowability</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                               | 12/178,246             | TORRANCE ET AL.     |  |
|                               | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                               | Patrick F. Brinson     | 3754                |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 6/4/2009.

2. ☒ The allowed claim(s) is/are 1-24.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.  
     (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached  
         1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.  
     (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

|                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)<br>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)<br>3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____<br>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 5. <input type="checkbox"/> Notice of Informal Patent Application<br>6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____<br>7. <input type="checkbox"/> Examiner's Amendment/Comment<br>8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance<br>9. <input type="checkbox"/> Other _____. |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                                          |  |
|----------------------------------------------------------|--|
| / Patrick F. Brinson/<br>Primary Examiner, Art Unit 3754 |  |
|----------------------------------------------------------|--|



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## BIB DATA SHEET

CONFIRMATION NO. 5950

|                                                                                                                                                                                                                                                                             |                                                                                                                   |                                                          |                               |                                                                                                                                                                                                                                                                           |                           |                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>SERIAL NUMBER</b><br>12/178,246                                                                                                                                                                                                                                          | <b>FILING or 371(c)<br/>DATE</b><br>07/23/2008<br><b>RULE</b>                                                     | <b>CLASS</b><br>138                                      | <b>GROUP ART UNIT</b><br>3754 | <b>ATTORNEY DOCKET NO.</b><br>GCDT-01                                                                                                                                                                                                                                     |                           |                                |
| <b>APPLICANTS</b><br>Roy Torrance, Houston, TX;<br>Jody James, Pearland, TX;<br><b>** CONTINUING DATA ***** NONE / PFB</b><br><b>** FOREIGN APPLICATIONS ***** NONE / PFB</b><br><b>** IF REQUIRED, FOREIGN FILING LICENSE GRANTED *** SMALL ENTITY **</b><br>07/31/2008    |                                                                                                                   |                                                          |                               |                                                                                                                                                                                                                                                                           |                           |                                |
| Foreign Priority claimed <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>35 USC 119(a-d) conditions met <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>Verified and /PATRICK F BRINSON/<br>Acknowledged Examiner's Signature |                                                                                                                   | <input type="checkbox"/> Met after Allowance<br>Initials | <b>STATE OR COUNTRY</b><br>TX | <b>SHEETS DRAWINGS</b><br>5                                                                                                                                                                                                                                               | <b>TOTAL CLAIMS</b><br>20 | <b>INDEPENDENT CLAIMS</b><br>3 |
| <b>ADDRESS</b><br>LAW OFFICE OF DAVID MCEWING<br>P.O. BOX 231324<br>HOUSTON, TX 77023<br>UNITED STATES                                                                                                                                                                      |                                                                                                                   |                                                          |                               |                                                                                                                                                                                                                                                                           |                           |                                |
| <b>TITLE</b><br>TEAR CORD FOR JACKETED TUBE                                                                                                                                                                                                                                 |                                                                                                                   |                                                          |                               |                                                                                                                                                                                                                                                                           |                           |                                |
| <b>FILING FEE RECEIVED</b><br>435                                                                                                                                                                                                                                           | FEES: Authority has been given in Paper<br>No. _____ to charge/credit DEPOSIT ACCOUNT<br>No. _____ for following: |                                                          |                               | <input type="checkbox"/> All Fees<br><input type="checkbox"/> 1.16 Fees (Filing)<br><input type="checkbox"/> 1.17 Fees (Processing Ext. of time)<br><input type="checkbox"/> 1.18 Fees (Issue)<br><input type="checkbox"/> Other _____<br><input type="checkbox"/> Credit |                           |                                |

**EAST Search History**

| <b>Ref #</b> | <b>Hits</b> | <b>Search Query</b>                   | <b>DBs</b>                               | <b>Default Operator</b> | <b>Plurals</b> | <b>Time Stamp</b> |
|--------------|-------------|---------------------------------------|------------------------------------------|-------------------------|----------------|-------------------|
| L1           | 372         | 138/139.ccls.                         | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR                      | ON             | 2009/06/21 21:15  |
| L2           | 378         | 138/131.ccls.                         | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR                      | ON             | 2009/06/21 21:15  |
| L3           | 376         | 138/127.ccls.                         | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR                      | ON             | 2009/06/21 21:16  |
| L4           | 939         | 1 or 2 or 3                           | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR                      | ON             | 2009/06/21 21:16  |
| L5           | 13525       | (rip or pull or<br>tear) with<br>cord | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR                      | ON             | 2009/06/21 21:16  |
| L6           | 1           | 4 and 5                               | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR                      | ON             | 2009/06/21 21:16  |

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|                                                                                                                  |                                            |                                                                   |
|------------------------------------------------------------------------------------------------------------------|--------------------------------------------|-------------------------------------------------------------------|
| <b>Issue Classification</b><br> | <b>Application/Control No.</b><br>12178246 | <b>Applicant(s)/Patent Under Reexamination</b><br>TORRANCE ET AL. |
|                                                                                                                  | <b>Examiner</b><br>Patrick F Brinson       | <b>Art Unit</b><br>3754                                           |

| ORIGINAL           |                                   |          |     |     |  | INTERNATIONAL CLASSIFICATION |   |   |   |                      |             |  |  |  |  |  |  |  |
|--------------------|-----------------------------------|----------|-----|-----|--|------------------------------|---|---|---|----------------------|-------------|--|--|--|--|--|--|--|
| CLASS              |                                   | SUBCLASS |     |     |  | CLAIMED                      |   |   |   |                      | NON-CLAIMED |  |  |  |  |  |  |  |
| 138                |                                   | 110      |     |     |  | F                            | 1 | 6 | L | 11 / 00 (2006.01.01) |             |  |  |  |  |  |  |  |
| CROSS REFERENCE(S) |                                   |          |     |     |  |                              |   |   |   |                      |             |  |  |  |  |  |  |  |
|                    |                                   |          |     |     |  |                              |   |   |   |                      |             |  |  |  |  |  |  |  |
| CLASS              | SUBCLASS (ONE SUBCLASS PER BLOCK) |          |     |     |  |                              |   |   |   |                      |             |  |  |  |  |  |  |  |
| 138                | 149                               | 139      | 131 | 127 |  |                              |   |   |   |                      |             |  |  |  |  |  |  |  |
| 174                | 102R                              |          |     |     |  |                              |   |   |   |                      |             |  |  |  |  |  |  |  |
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| <input checked="" type="checkbox"/> Claims renumbered in the same order as presented by applicant <input type="checkbox"/> CPA <input type="checkbox"/> T.D. <input type="checkbox"/> R.1.47 |          |       |          |       |          |       |          |       |          |       |          |       |          |       |          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|
| Final                                                                                                                                                                                        | Original | Final | Original | Final | Original | Final | Original | Final | Original | Final | Original | Final | Original | Final | Original |
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|-------------------------------------------------------|-----------|------------------------------|-------------------|
| NONE                                                  |           | <b>Total Claims Allowed:</b> |                   |
|                                                       |           | 24                           |                   |
| (Assistant Examiner)                                  | (Date)    |                              |                   |
| /Patrick F Brinson/<br>Primary Examiner.Art Unit 3754 | 6/21/2009 | O.G. Print Claim(s)          | O.G. Print Figure |
| (Primary Examiner)                                    | (Date)    | 1                            |                   |

|                                                                                                              |                                                |                                                                       |
|--------------------------------------------------------------------------------------------------------------|------------------------------------------------|-----------------------------------------------------------------------|
| <b>Search Notes</b><br><br> | <b>Application/Control No.</b><br><br>12178246 | <b>Applicant(s)/Patent Under Reexamination</b><br><br>TORRANCE ET AL. |
|                                                                                                              | <b>Examiner</b><br><br>Patrick F Brinson       | <b>Art Unit</b><br><br>3754                                           |

| SEARCHED       |                    |           |          |
|----------------|--------------------|-----------|----------|
| Class          | Subclass           | Date      | Examiner |
| 138            | 110, 149, 114, 116 | 3/2/2009  | PFB      |
| 385            | 109, 108, 110      | 3/2/2009  | PFB      |
| 174            | 102R, 36           | 3/2/2009  | PFB      |
| As Above & 138 | 139, 131, 133, 127 | 6/20/2009 | PFB      |

| SEARCH NOTES |          |          |
|--------------|----------|----------|
| Search Notes | Date     | Examiner |
| EAST         | 3/2/2009 | PFBPFB   |

| INTERFERENCE SEARCH |          |           |          |
|---------------------|----------|-----------|----------|
| Class               | Subclass | Date      | Examiner |
| See Attached        |          | 6/21/2009 | PFB      |

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|---------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|-------------------------------------------------------------------|
| <p align="center"><b><i>Index of Claims</i></b></p>  | <b>Application/Control No.</b><br>12178246 | <b>Applicant(s)/Patent Under Reexamination</b><br>TORRANCE ET AL. |
|                                                                                                                                       | <b>Examiner</b><br>Patrick F Brinson       | <b>Art Unit</b><br>3754                                           |

|   |                 |   |                   |   |                     |   |                 |
|---|-----------------|---|-------------------|---|---------------------|---|-----------------|
| ✓ | <b>Rejected</b> | - | <b>Cancelled</b>  | N | <b>Non-Elected</b>  | A | <b>Appeal</b>   |
| = | <b>Allowed</b>  | ÷ | <b>Restricted</b> | I | <b>Interference</b> | O | <b>Objected</b> |

| <input checked="" type="checkbox"/> Claims renumbered in the same order as presented by applicant |          |            |            | <input type="checkbox"/> CPA |  | <input type="checkbox"/> T.D. |  | <input type="checkbox"/> R.1.47 |  |
|---------------------------------------------------------------------------------------------------|----------|------------|------------|------------------------------|--|-------------------------------|--|---------------------------------|--|
| CLAIM                                                                                             |          | DATE       |            |                              |  |                               |  |                                 |  |
| Final                                                                                             | Original | 03/02/2009 | 06/21/2009 |                              |  |                               |  |                                 |  |
|                                                                                                   | 1        | ✓          | =          |                              |  |                               |  |                                 |  |
|                                                                                                   | 2        | O          | =          |                              |  |                               |  |                                 |  |
|                                                                                                   | 3        | O          | =          |                              |  |                               |  |                                 |  |
|                                                                                                   | 4        | ✓          | =          |                              |  |                               |  |                                 |  |
|                                                                                                   | 5        | O          | =          |                              |  |                               |  |                                 |  |
|                                                                                                   | 6        | ✓          | =          |                              |  |                               |  |                                 |  |
|                                                                                                   | 7        | ✓          | =          |                              |  |                               |  |                                 |  |
|                                                                                                   | 8        | ✓          | =          |                              |  |                               |  |                                 |  |
|                                                                                                   | 9        | ✓          | =          |                              |  |                               |  |                                 |  |
|                                                                                                   | 10       | O          | =          |                              |  |                               |  |                                 |  |
|                                                                                                   | 11       | ✓          | =          |                              |  |                               |  |                                 |  |
|                                                                                                   | 12       | O          | =          |                              |  |                               |  |                                 |  |
|                                                                                                   | 13       | ✓          | =          |                              |  |                               |  |                                 |  |
|                                                                                                   | 14       | ✓          | =          |                              |  |                               |  |                                 |  |
|                                                                                                   | 15       | ✓          | =          |                              |  |                               |  |                                 |  |
|                                                                                                   | 16       | O          | =          |                              |  |                               |  |                                 |  |
|                                                                                                   | 17       | O          | =          |                              |  |                               |  |                                 |  |
|                                                                                                   | 18       | ✓          | =          |                              |  |                               |  |                                 |  |
|                                                                                                   | 19       | ✓          | =          |                              |  |                               |  |                                 |  |
|                                                                                                   | 20       | ✓          | =          |                              |  |                               |  |                                 |  |
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**EAST Search History**

| Ref # | Hits | Search Query                          | DBs      | Default Operator | Plurals | Time Stamp       |
|-------|------|---------------------------------------|----------|------------------|---------|------------------|
| L7    | 24   | jacketed with metal<br>with tube      | US-PGPUB | OR               | ON      | 2009/06/21 21:18 |
| L8    | 3    | jacketed with metal<br>with tube.clm. | US-PGPUB | OR               | ON      | 2009/06/21 21:18 |
| L9    | 38   | tear with cord.clm.                   | US-PGPUB | OR               | ON      | 2009/06/21 21:18 |
| L10   | 0    | 8 and 9                               | US-PGPUB | OR               | ON      | 2009/06/21 21:18 |

**6/ 21/ 09 9:33:48 PM****C:\ Documents and Settings\ pbrinson\ My Documents\ EAST\ workspaces\ 12178246.wsp**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
PATENT EXAMINING OPERATION

|                       |   |                            |
|-----------------------|---|----------------------------|
| Applicant:            | § |                            |
| Roy Torrance et al.   | § | Group Art Unit: 3754       |
|                       | § |                            |
| Serial No. 12/178,246 | § | Examiner: Brinson, Patrick |
|                       | § |                            |
| Filed: 07/23/2008     | § | Atty. Dkt. No.: GCDT-01    |
|                       | § |                            |
| Confirmation No. 5950 | § |                            |

For: Tear cord for jacketed tube

Honorable Commissioner of Patents and Trademarks  
Alexandria, Virginia

SIR:

This paper is presented in response to the Office Action 03/05/09.

RESPONSE TO OFFICE ACTION

The Examiner has rejected claims 1, 7, 12, 14 under 35 U.S.C. Section 112, second paragraph. The Examiner also rejected claims 18 – 20 under Yang pursuant to 35 U.S.C. Section 102 and rejected claims 1, 7, 14, 15 under Moore pursuant to 35 U.S.C. Section 102. The Examiner also rejected claims 1, 4, 7, 8, 11, and 13 under Yang in view of Moore pursuant to 35 U.S.C. 103(a). The Examiner has indicated that claims 2, 3, 5, 10, 12, 16, 17 are allowable subject matter. The Examiner did not reject claims 6 and 9 and they are therefore presumed to be allowable.

An interview was conducted with Examiner Brinson on May 20, 2009 as discussed more fully herein.

### CLAIMS

1. (Currently amended) A jacketed metal tube comprising a first encapsulating protective jacket around surrounding a smooth solid wall metal tube having an outer sealing surface and a tear cord between the inside diameter of said jacket and the outer surface of said tube whereby the tear cord can be pulled back to create a slit in the protective jacket and to allow the protective jacket to be separated from the metal tube without damage to the metal tube surface.
2. (Currently amended) ~~The~~ A jacketed metal tube of claim 1 comprising a first protective jacket surrounding a smooth solid wall metal tube, wherein the tube conveys hydraulic fluid, and a tear cord located between the inside diameter of the jacket and an outer sealing surface of the tube whereby the tear cord can be pulled back to create a slit in the protective jacket and to allow the protective jacket to be separated from the metal tube without damage to the metal tube surface.
3. (Currently amended) ~~The tube of claim 1~~ A jacketed metal tube comprising a first protective jacket surrounding a smooth solid wall metal tube, wherein the tube conveys chemicals, and a tear cord located between the inside diameter of the jacket and an outer sealing surface of the tube whereby the tear cord can be pulled back to create a slit in the protective jacket and to allow the protective jacket to be separated from the metal tube without damage to the metal tube surface.
4. (Original) The tube of claim 1 wherein the jacket comprises polyamide, polyethylene, ethylene chlorotrifluoroethylene or a thermoplastic elastomer cross linking ethylene propylene diene monomer rubber and polypropylene.
5. (Original) The tube of claim 1 wherein the jacket comprises engineered thermoplastic vulcanates, perfluoroalkoxy, polyvinylidene fluoride or fluorinated ethylene propylene.
6. (Original) The tube of claim 1 further comprising a tear cord made of poly-aramid fiber.

7. (Currently amended) The tube of claim 1 ~~further comprising~~ wherein the solid wall metal tube comprises incoloy, stainless steel, carbon steel, or galvanized carbon steel.
8. (Currently amended) The tube of claim 1 further comprising a second inner jacket surrounding the tube wherein the second jacket is located between the outer surface of the tube and the inner diameter of the first jacket.
9. (Original) The tube of claim 1 further comprising a tear cord made of metal.
10. (Currently amended) ~~The~~ A jacketed metal tube of claim 1 wherein the a first protective jacket surrounding a smooth solid wall metal tube, and a tear cord is helically wound around the tube and the tear cord located between the inside diameter of the jacket and an outer sealing surface of the tube whereby the tear cord can be pulled back to create a slit in the protective jacket and to allow the protective jacket to be separated from the metal tube without damage to the metal tube surface or an inner jacket surrounding the tube.
11. (Original) The tube of claim 1 further comprising a tear cord placed at a selected location on a length of the tube.
12. (Currently amended) ~~The~~ A jacketed metal tube of claim 1 further comprising one or more steel ropes within one or more protective jackets surrounding a smooth solid wall tube and a tear cord is positioned next to each steel rope and tube with a tear cord wherein the rope has the same axis of orientation as the tube and is positioned adjacent to the tube within the jacket whereby each tear cord can be pulled back to create a slit in the protective jacket and to allow the protective jacket to be separated from the steel rope and metal tube without damage to the metal tube surface.
13. (Currently amended) The tube of claim 1 further comprising a jacket of one or more materials of a group consisting of polyethylene, ethylene chlorotrifluoroerthlyene, a thermoplastic elastomer cross linking ethylene propylene diene monomer rubber and polypropylene, perfluoroalkoxy,

polyvinylidene fluoride and fluorinated ethylene propylene wherein the material is extruded onto the tube without radiation curing.

14. (Currently amended) An encapsulated cable comprising a first ~~encapsulating~~ protective jacket ~~around~~ surrounding a plurality of solid wall metal tubes, and a plurality of tear cords with one tear cord located between the outside surface of each said tube[[s]] and the inside diameter of said jacket whereby each tear cord is oriented longitudinally along the length of a tube, each tube further comprising smooth walls with sealing surfaces for attachment of compression fittings for performance in a negative or positive internal pressure environment and whereby the tear cord can be pulled back to create a slit in the protective jacket to allow the protective jacket to be separated from one or more metal tubes without damage to a metal tube sealing surface.
15. (Original) The cable of claim 14 further comprising at least one tube containing a fiber optic cable, electrical wire or data communication cable.
16. (Currently amended) The cable of claim 14 further comprising at least one tube suitable for installation of compression fittings to convey ~~conveying~~ hydraulic fluid.
17. (Currently amended) The cable of claim 14 further comprising at least one tube suitable for installation of compression fittings to convey ~~conveying~~ chemicals.
18. (Currently amended) A method of conveying liquids into a well bore comprising:
  - i. placing a tear cord adjacent to an outer sealing surface of a first spoolable, smooth, solid wall metal tube;
  - ii. placing a protective jacket around the metal tube and the tear cord; and jacketing the tear cord and first tubing with a first layer comprising of polyethylene, ethylene-chlorotrifluoroethylene, a thermoplastic elastomer cross-linking ethylene-propylene-diene monomer rubber and polypropylene, perfluoroalkoxy, polyvinylidene fluoride or fluorinated ethylene-propylene

- iii. pulling the tear cord back to create a slit in the protective jacket to allow the protective jacket to be separated from the metal tube without damage to a metal tube surface.
19. (Currently amended) The method of claim 18 further comprising placing a second tear cord adjacent to the outer diameter of the protective jacket at least one first jacketed tube and covering the first jacket with a second jacket.
20. (Currently amended) The method of claim 18 further comprising placing the tear cord on the outer surface of the tube at a selected location.
21. (New) A cable comprising a first encapsulating protective jacket surrounding at least one solid wall metal tube, and at least one tear cord between the said tube and the jacket whereby the tear cord can be pulled back to create a slit in the protective jacket to allow the protective jacket to be separated from one or more metal tubes without damage to a metal tube surface and the cable further comprising at least one compression fitting.
22. (New) The tube of claim 8 further comprising a second inner jacket surrounding the tube and said second jacket positioned between the first protective jacket and said metal tube, and a first tear cord positioned between the inner diameter of the first jacket and the outer diameter of the second jacket and a second tear cord positioned between the inner diameter of the second jacket and the outer surface of the metal tube.
23. (New) The method of claim 18 further comprising jacketing the metal tube and tear cord with polyethylene, ethylene chlorotrifluoroethylene, a thermoplastic elastomer cross linking ethylene propylene diene monomer rubber and polypropylene, perfluoroalkoxy, polyvinylidene fluoride or fluorinated ethylene propylene.
24. (New) The jacketed metal tube of claim 1 further comprising a fiber optic cable, electrical wire or data communication cable.

## REMARKS

It is the Applicant's position that claims 18, 19, & 20 are allowable. Claim 18 and 20 have been amended to clarify that the tear cord is on the outer surface of the metal tube. The tear cord is not used to cut through the metal tube. This is contrary to the teaching of Yang stating:

"Corrugated steel armor (18) is applied over the radial strength yarns (16) and the corrugated steel armor (18) is flooded with a water blockable flooding compound (19) such a petroleum based hot melt filling compound... . A high strength rip cord (20) is applied under the armor (19) to aid with sheath removal."

With due respect to the Examiner, it is the Applicant's believes that the Examiner may be mistaken regarding the position of the tear cord relative to the tube in Yang. The Examiner states the tear cord is placed adjacent to the solid wall tube and jacketing the tear cord and first tubing with an outer jacket. The tear cord is placed at a selected location within the tubular structure and it's adjacent to the first jacketed tube and covered by the second jacket. Contrary to the Examiner's comments, it is clear from Yang that the tear cord is underneath the metal tube. See Figure 1 and tear cord (20) and the metal tube (18).

It must be remembered that it is critical to the Applicant's invention that the metal tubing remain intact, free from scratches, gouges, nicks or perforations. The tear cord is for the purpose of allowing removal of the outer jacket without damage to the metal tube or injury to the worker.

Claim 20 has been amended to clarify the location of the tear cord may be selected, e.g., in a helical pattern or along the longitudinal length of the tube. This method step is not taught by either Yang or Moore.

It is the Applicant's position that claims 1, 4, 7, 8, 11 and 13 are *not* obvious under 35 U.S.C. Section 103(a) as being unpatentable over Yang et al in view of Moore et al. The Examiner states Yang discloses the structure of a tube surrounded by jackets and outer jacket formed of polyethylene but does not disclose the tube being metal. The tube disclosed in Yang is metal but is a

wrapped structure as shown in Figure 2. It is not fluid tight or a solid wall tube. The Examiner states Moore discloses that it is known to provide cable with metal tubing and that it would be obvious to one having ordinary skill in the art at the time the invention was made to substitute for the material of the tubing of Yang, a tube formed of metal. However, Moore does not specify the tube contemplated. There is no indication that it is a solid wall tube or that it is a smooth wall tube. Moore does not provide guidance to a person skilled in the art. The only mention is in para. 0012 stating

“By the term ‘cable component’ we include for fibre-optic components such as, for example, strength members (which are usually made from glass, reinforced plastic or compacted steel); tubes (which are usually made from polymers such as, for example, polyester, polyolefins, polyethylenes, PVC, or metals such as, for example, steel, aluminum, or stainless steel); optical fibres; optical ribbon fibres; tapes (which are usually made from glass, aramid, steel, aluminum and non-wovens); yarns (which are usually made from polymeric materials such as, for example, polyethylene, PVC, nylon, ethylene-propylene-diene monomers; conductors; and rip cords.”  
(emphasis added)

It is the Applicant’s position that Moore, as set forth above, does not disclose the Applicant’s tube to a person having ordinary skill in the art. Is the tube to be braided, corrugated or helically wound metal strips?

It is the Applicant’s position that Yang does not teach the structure of the Applicant’s invention. Yang teaches an inner core or tube (12) made from polypropylene-polyethylene copolymer resin or compound blended with a filler material. *Surrounding the core or buffer tube is corrugated steel armor (18). A high strength rip cord (22) is applied under the armor to aid with sheath removal.* An outer jacket is made of medium density polyethylene (MDPE) (24). See Col. 3, line 27.

The steel armor disclosed by Yang is corrugated and not smooth walled as is the Applicant's invention. The structure of Yang does not provide a sealing surface. A sealing surface is an essential part of the Applicant's invention. See Para. 119 of the application. Further there is no indication in Moore regarding the construction of the metal tube. It could be a helically wrapped metal tube as frequently used for flexible armor protection. A wrapped metal tube is not a solid wall tube.

Also, Yang teaches use of the tear cord to remove the metal tubing. In the Applicant's invention, it is critical that the metal tubing remain intact. Moore does not teach placement of the rip cord over the metal tubing. See paragraph [0012] and Moore Figure 2. In Figure 2, the rip cord (9) is located in the middle of sheath (6). Clearly not all of the sheath would be removed by the tear cord. An open blade tool would be required to remove the residual sheath thereby risking damage to the tube sealing surface.

We must assume Moore follows the prior art of Yang. Therefore the Applicant's structure for cable is not obvious.

The Examiner stated claims 2 and 3 would be allowable if written in independent form. That has been done. The Applicant has also inserted additional text stating the function of the tear cord.

Claim 8 is not obvious under Yang in view of Moore. Claim 8 teaches the tube of claim 1 further comprising a second inner jacket outside the metal tube. This is not taught in Moore. See Figure 3 for example. It is also not taught by Yang.

The Examiner stated claims 10 and 12 would be allowable if placed in independent form. That has been accomplished. Text has been added stating the function of the tear cord.

Applicant's claim 11 is for a cable wherein the tear cord is selectively positioned within the cable. Neither Yang or Moore even discuss this feature and the claim should be allowed. It is new. Note again that the claim is dependant upon claim 1. Therefore the tear cord is place under the jacket and adjacent to the tube within the cable.

Applicant's claim 13 has been amended to clarify that the chemical compositions comprising the jacket of the cable are extruded onto the cable and that radiation is not used in the curing of the compositions. This removes Moore from consideration. And the claim is dependant upon claim 1.

Applicant's claim 14 has been amended. Claim 14 pertains to an encapsulating jacket surrounding a plurality of metal tubes. It is an independent claim. The location of the tear cords is clearly specified to be between the inner layer of the jacket and the outer layer of each tube. As with claim 1, the function of each tear cord is to allow the removal of the encapsulating jacket from the metal tube without damage, e.g., scratches, nicks or gouges, to the outer surface (sealing surface) of the metal tube.

Claims 15, 16 and 17 are dependent upon claim 14. These claims should now be allowable.

## INTERVIEW

The Applicant participated in an interview with the Examiner at the USPTO offices on May 20, 2009. A presentation was made of the cable subject of the invention and comparison made with the prior art. Also presented were procedures utilized by downhole operating companies to prevent injuries to personnel and damage to the inner metal tube in removing the encapsulating jacket using existing technology. Emails were also read from industry representatives expressing the long felt need for a jacketed tube product that allowed safe and efficient removal of the jacketing from the tube.

Proposed amended independent claims were reviewed and the Examiner suggested text be added to the claims clarifying the function of the tear cord in relation to the encapsulating jacket and the outer surface of the metal tube.

### SUMMARY

The claims have been amended in response to the Examiner's rejection and citation of prior art. Four existing dependent claims have been amended to independent claims. One independent and three new dependent claims have been added. There are eight independent claims. The appropriate fee has been paid.

The Applicant believes all of the claims are allowable. Allowance of the claims is requested.

Respectfully submitted the 4th day of June, 2009.

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### CERTIFICATE OF SERVICE

The undersigned states the foregoing was filed via the EFS-Web system on June 4, 2009.

/davidmcewing/  
David McEwing

| Electronic Acknowledgement Receipt          |                             |
|---------------------------------------------|-----------------------------|
| <b>EFS ID:</b>                              | 5452308                     |
| <b>Application Number:</b>                  | 12178246                    |
| <b>International Application Number:</b>    |                             |
| <b>Confirmation Number:</b>                 | 5950                        |
| <b>Title of Invention:</b>                  | TEAR CORD FOR JACKETED TUBE |
| <b>First Named Inventor/Applicant Name:</b> | Roy Torrance                |
| <b>Customer Number:</b>                     | 26328                       |
| <b>Filer:</b>                               | David Lee McEwing           |
| <b>Filer Authorized By:</b>                 |                             |
| <b>Attorney Docket Number:</b>              | GCDT-01                     |
| <b>Receipt Date:</b>                        | 04-JUN-2009                 |
| <b>Filing Date:</b>                         | 23-JUL-2008                 |
| <b>Time Stamp:</b>                          | 12:08:14                    |
| <b>Application Type:</b>                    | Utility under 35 USC 111(a) |

### Payment information:

|                        |    |
|------------------------|----|
| Submitted with Payment | no |
|------------------------|----|

### File Listing:

| Document Number | Document Description                                  | File Name        | File Size(Bytes)/<br>Message Digest               | Multi Part /.zip | Pages (if appl.) |
|-----------------|-------------------------------------------------------|------------------|---------------------------------------------------|------------------|------------------|
| 1               | Amendment/Req. Reconsideration-After Non-Final Reject | ResponceCUTE.pdf | 49633<br>c298d771c8e4a610277be2098d9a9d39cfe5779b | no               | 11               |

### Warnings:

### Information:

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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

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If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------------------------|---------------------------------------------------|-----------------------------------------------------|----------------------------------|-------------------------|-----------------------------------------|---------------------|
| <b>PATENT APPLICATION FEE DETERMINATION RECORD</b><br>Substitute for Form PTO-875                                                                                                                                                                                                                                                                                                                                                    |                                                                                          |                                                                                                                                                                                                                               |              |                                    | Application or Docket Number<br><b>12/178,246</b> |                                                     | Filing Date<br><b>07/23/2008</b> |                         | <input type="checkbox"/> To be Mailed   |                     |
| <b>APPLICATION AS FILED – PART I</b>                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                          |                                                                                                                                                                                                                               |              |                                    |                                                   |                                                     |                                  |                         |                                         |                     |
| (Column 1)                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                          |                                                                                                                                                                                                                               | (Column 2)   |                                    |                                                   | SMALL ENTITY <input checked="" type="checkbox"/> OR |                                  | OTHER THAN SMALL ENTITY |                                         |                     |
| FOR                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                          | NUMBER FILED                                                                                                                                                                                                                  | NUMBER EXTRA |                                    | RATE (\$)                                         | FEE (\$)                                            | OR                               |                         | RATE (\$)                               | FEE (\$)            |
| <input type="checkbox"/> BASIC FEE<br>(37 CFR 1.16(a), (b), or (c))                                                                                                                                                                                                                                                                                                                                                                  |                                                                                          | N/A                                                                                                                                                                                                                           | N/A          |                                    | N/A                                               |                                                     | OR                               |                         | N/A                                     |                     |
| <input type="checkbox"/> SEARCH FEE<br>(37 CFR 1.16(k), (l), or (m))                                                                                                                                                                                                                                                                                                                                                                 |                                                                                          | N/A                                                                                                                                                                                                                           | N/A          |                                    | N/A                                               |                                                     | OR                               |                         | N/A                                     |                     |
| <input type="checkbox"/> EXAMINATION FEE<br>(37 CFR 1.16(o), (p), or (q))                                                                                                                                                                                                                                                                                                                                                            |                                                                                          | N/A                                                                                                                                                                                                                           | N/A          |                                    | N/A                                               |                                                     | OR                               |                         | N/A                                     |                     |
| TOTAL CLAIMS<br>(37 CFR 1.16(j))                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                          | minus 20 =                                                                                                                                                                                                                    |              | *                                  | X \$ =                                            |                                                     | OR                               |                         | X \$ =                                  |                     |
| INDEPENDENT CLAIMS<br>(37 CFR 1.16(h))                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                          | minus 3 =                                                                                                                                                                                                                     |              | *                                  | X \$ =                                            |                                                     | OR                               |                         | X \$ =                                  |                     |
| <input type="checkbox"/> APPLICATION SIZE FEE<br>(37 CFR 1.16(s))                                                                                                                                                                                                                                                                                                                                                                    |                                                                                          | If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s). |              |                                    |                                                   |                                                     | OR                               |                         |                                         |                     |
| <input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))                                                                                                                                                                                                                                                                                                                                                           |                                                                                          |                                                                                                                                                                                                                               |              |                                    |                                                   |                                                     |                                  |                         |                                         |                     |
| * If the difference in column 1 is less than zero, enter "0" in column 2.                                                                                                                                                                                                                                                                                                                                                            |                                                                                          |                                                                                                                                                                                                                               |              |                                    |                                                   |                                                     |                                  |                         |                                         |                     |
| <b>APPLICATION AS AMENDED – PART II</b>                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                          |                                                                                                                                                                                                                               |              |                                    |                                                   |                                                     |                                  |                         |                                         |                     |
| (Column 1)                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                          |                                                                                                                                                                                                                               | (Column 2)   |                                    |                                                   | (Column 3)                                          |                                  |                         | SMALL ENTITY OR OTHER THAN SMALL ENTITY |                     |
| AMENDMENT                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>06/04/2009</b>                                                                        | CLAIMS REMAINING AFTER AMENDMENT                                                                                                                                                                                              |              | HIGHEST NUMBER PREVIOUSLY PAID FOR | PRESENT EXTRA                                     | RATE (\$)                                           | ADDITIONAL FEE (\$)              |                         | RATE (\$)                               | ADDITIONAL FEE (\$) |
|                                                                                                                                                                                                                                                                                                                                                                                                                                      | Total (37 CFR 1.16(i))                                                                   | * 24                                                                                                                                                                                                                          | Minus        | ** 20                              | = 4                                               | X \$26 =                                            | 104                              | OR                      | X \$ =                                  |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                      | Independent (37 CFR 1.16(h))                                                             | * 8                                                                                                                                                                                                                           | Minus        | *** 3                              | = 5                                               | X \$110 =                                           | 550                              | OR                      | X \$ =                                  |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                      | <input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))                           |                                                                                                                                                                                                                               |              |                                    |                                                   |                                                     |                                  | OR                      |                                         |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                      | <input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j)) |                                                                                                                                                                                                                               |              |                                    |                                                   |                                                     |                                  | OR                      |                                         |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                          |                                                                                                                                                                                                                               |              |                                    |                                                   | TOTAL ADD'L FEE                                     | <b>654</b>                       | OR                      | TOTAL ADD'L FEE                         |                     |
| AMENDMENT                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                          | CLAIMS REMAINING AFTER AMENDMENT                                                                                                                                                                                              |              | HIGHEST NUMBER PREVIOUSLY PAID FOR | PRESENT EXTRA                                     | RATE (\$)                                           | ADDITIONAL FEE (\$)              |                         | RATE (\$)                               | ADDITIONAL FEE (\$) |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                      | Independent (37 CFR 1.16(h))                                                             | *                                                                                                                                                                                                                             | Minus        | ***                                | =                                                 | X \$ =                                              |                                  | OR                      | X \$ =                                  |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                      | <input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))                           |                                                                                                                                                                                                                               |              |                                    |                                                   |                                                     |                                  | OR                      |                                         |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                      | <input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j)) |                                                                                                                                                                                                                               |              |                                    |                                                   |                                                     |                                  | OR                      |                                         |                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                          |                                                                                                                                                                                                                               |              |                                    |                                                   | TOTAL ADD'L FEE                                     |                                  | OR                      | TOTAL ADD'L FEE                         |                     |
| <p>* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.</p> <p>** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".</p> <p>*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".</p> <p>The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.</p> |                                                                                          |                                                                                                                                                                                                                               |              |                                    |                                                   |                                                     |                                  |                         |                                         |                     |

Legal Instrument Examiner:  
/JAMES ELLIOTT/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



# UNITED STATES PATENT AND TRADEMARK OFFICE

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| APPLICATION NO.                                                                              | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.            | CONFIRMATION NO.       |
|----------------------------------------------------------------------------------------------|-------------|----------------------|--------------------------------|------------------------|
| 12/178,246                                                                                   | 07/23/2008  | Roy Torrance         | GCDT-01                        | 5950                   |
| 26328 7590 05/29/2009<br>LAW OFFICE OF DAVID MCEWING<br>P.O. BOX 231324<br>HOUSTON, TX 77023 |             |                      | EXAMINER<br>BRINSON, PATRICK F |                        |
|                                                                                              |             |                      | ART UNIT<br>3754               | PAPER NUMBER           |
|                                                                                              |             |                      | MAIL DATE<br>05/29/2009        | DELIVERY MODE<br>PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                          |                                       |                                        |  |
|--------------------------|---------------------------------------|----------------------------------------|--|
| <b>Interview Summary</b> | <b>Application No.</b><br>12/178,246  | <b>Applicant(s)</b><br>TORRANCE ET AL. |  |
|                          | <b>Examiner</b><br>Patrick F. Brinson | <b>Art Unit</b><br>3754                |  |

All participants (applicant, applicant's representative, PTO personnel):

(1) Patrick F. Brinson. (3) Jody James.

(2) David L. McEwing. (4) \_\_\_\_.

Date of Interview: 20 May 2009.

Type: a) ☐ Telephonic b) ☐ Video Conference  
c) ☒ Personal [copy given to: 1) ☒ applicant 2) ☒ applicant's representative]

Exhibit shown or demonstration conducted: d) ☒ Yes e) ☐ No.  
If Yes, brief description: jacketed tubing with tear cord.

Claim(s) discussed: 1, 14, 18 and 21.

Identification of prior art discussed: U.S. 2003/0178222 to More et al. and U.S. 5,574,816 to Yang et al..

Agreement with respect to the claims f) ☐ was reached. g) ☒ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: See Continuation Sheet.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

|                                                         |  |
|---------------------------------------------------------|--|
| /Patrick F. Brinson/<br>Primary Examiner, Art Unit 3754 |  |
|---------------------------------------------------------|--|

## Summary of Record of Interview Requirements

### Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

### Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

#### 37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,  
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

### Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Continuation of Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Mr. James explained the invention and the purpose of the tear cord, which allows the stripping of the jacket without damaging of the metal tube. Mr. McEwing discussed the claims as amended. It was pointed out that the prior art to Moore et al and Yang et al. did not provide the recited structure, however the jacketed metal tube is known in the art. It was suggested that the claims as amended also include a whereby clause explaining the function of the tear cord. An amendment will be filed and a subsequent search will be made in view of the amended claims.



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| APPLICATION NO.                                                                              | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.            | CONFIRMATION NO.       |
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| 26328 7590 03/05/2009<br>LAW OFFICE OF DAVID MCEWING<br>P.O. BOX 231324<br>HOUSTON, TX 77023 |             |                      | EXAMINER<br>BRINSON, PATRICK F |                        |
|                                                                                              |             |                      | ART UNIT<br>3754               | PAPER NUMBER           |
|                                                                                              |             |                      | MAIL DATE<br>03/05/2009        | DELIVERY MODE<br>PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 12/178,246             | TORRANCE ET AL.     |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Patrick F. Brinson     | 3754                |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☐ Responsive to communication(s) filed on \_\_\_\_.

2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.

5) ☐ Claim(s) \_\_\_\_ is/are allowed.

6) ☒ Claim(s) 1,4,6-9,11,13-15 and 18-20 is/are rejected.

7) ☒ Claim(s) 2-5,10,12,16 and 17 is/are objected to.

8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

|                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)<br>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)<br>3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/23/2008</u> . | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____.<br>5) <input type="checkbox"/> Notice of Informal Patent Application<br>6) <input type="checkbox"/> Other: _____. |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. Claims 1, 12 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims are indefinite in not providing structural connection to the previously recited elements. Claim 7 recites further comprising incoloy, stainless steel, carbon steel or galvanized carbon steel without reciting what element these materials form. Claim 12 recites one or more steel ropes each with a tear cord, however it is not clear what connection the ropes have with the previously recited metal tube. Likewise claim 14 merely recites a cable including tubes, cords and a jacket without reciting their structural connection with each other.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S.

5,574,816 to **Yang et al.**

The patent to **Yang et al.** discloses a method of placing a tear cord (20) adjacent a first spoolable smooth, solid wall tube (12), and jacketing the tear cord and first tubing with an outer jacket (42) formed from a medium-density polyethylene, as recited in claim 18. The tear cord is placed at a selected location within the tubular structure and it's adjacent to the first jacketed tube and covered by the second jacket, as recited in claims 19 and 20.

Claims 1, 7, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 2003/178222 to **Moore et al.**

The **Moore et al.** reference discloses a cable, wherein paragraph [0012] discloses that the term cable component may include tubes which are made from metals, such as steel, aluminum or stainless steel, and rip cords. Fig. 1 discloses a jacket (1).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 4, 7, 8, 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yang et al.** in view of **Moore et al.**

The patent to **Yang et al.** discloses the recited structure, including a tube, surrounded by jackets (16, 18) and outer jacket (42) formed of polyethylene as discussed in preceding paragraph, but does not disclose the tube as being metal. The patent to **Moore et al.** discloses that it is known to provide cable with metal tubing, including forming them of stainless steel. It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute for the material of the tubing of **Yang et al.**, a tube formed of metal, as suggested by **Moore et al.** in order to provide a tubing resistant of external and internal pressure.

***Allowable Subject Matter***

5. Claims 2, 3, 5, 10, 12, 16 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Patrick F. Brinson** whose telephone number is (571) 272-4897. The examiner can normally be reached on M-F 7:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Kevin P. Shaver** can be reached on (571) 272-4720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Patrick F. Brinson/  
Primary Examiner, Art Unit 3754

P. F. Brinson  
March 2, 2009

|                                   |                                       |                                                               |             |
|-----------------------------------|---------------------------------------|---------------------------------------------------------------|-------------|
| <b>Notice of References Cited</b> | Application/Control No.<br>12/178,246 | Applicant(s)/Patent Under<br>Reexamination<br>TORRANCE ET AL. |             |
|                                   | Examiner<br>Patrick F. Brinson        | Art Unit<br>3754                                              | Page 1 of 1 |

**U.S. PATENT DOCUMENTS**

| * |   | Document Number<br>Country Code-Number-Kind Code | Date<br>MM-YYYY | Name               | Classification |
|---|---|--------------------------------------------------|-----------------|--------------------|----------------|
| * | A | US-7,346,257                                     | 03-2008         | Mumm et al.        | 385/141        |
| * | B | US-6,249,629                                     | 06-2001         | Bringuier, Anne G. | 385/113        |
| * | C | US-2003/0178222                                  | 09-2003         | Moore et al.       | 174/120.00R    |
|   | D | US-                                              |                 |                    |                |
|   | E | US-                                              |                 |                    |                |
|   | F | US-                                              |                 |                    |                |
|   | G | US-                                              |                 |                    |                |
|   | H | US-                                              |                 |                    |                |
|   | I | US-                                              |                 |                    |                |
|   | J | US-                                              |                 |                    |                |
|   | K | US-                                              |                 |                    |                |
|   | L | US-                                              |                 |                    |                |
|   | M | US-                                              |                 |                    |                |

**FOREIGN PATENT DOCUMENTS**

| * |   | Document Number<br>Country Code-Number-Kind Code | Date<br>MM-YYYY | Country | Name | Classification |
|---|---|--------------------------------------------------|-----------------|---------|------|----------------|
|   | N |                                                  |                 |         |      |                |
|   | O |                                                  |                 |         |      |                |
|   | P |                                                  |                 |         |      |                |
|   | Q |                                                  |                 |         |      |                |
|   | R |                                                  |                 |         |      |                |
|   | S |                                                  |                 |         |      |                |
|   | T |                                                  |                 |         |      |                |

**NON-PATENT DOCUMENTS**

| * |   | Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages) |
|---|---|-------------------------------------------------------------------------------------------|
|   | U |                                                                                           |
|   | V |                                                                                           |
|   | W |                                                                                           |
|   | X |                                                                                           |

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.



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## BIB DATA SHEET

CONFIRMATION NO. 5950

|                                                                                                                                                                                                                                                                                |                                                                                                                   |                                                          |                               |                                                                                                                                                                                                                                                                           |                           |                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|
| <b>SERIAL NUMBER</b><br>12/178,246                                                                                                                                                                                                                                             | <b>FILING or 371(c)<br/>DATE</b><br>07/23/2008<br><b>RULE</b>                                                     | <b>CLASS</b><br>138                                      | <b>GROUP ART UNIT</b><br>3754 | <b>ATTORNEY DOCKET NO.</b><br>GCDT-01                                                                                                                                                                                                                                     |                           |                                |
| <b>APPLICANTS</b><br>Roy Torrance, Houston, TX;<br>Jody James, Pearland, TX;<br><b>** CONTINUING DATA *****</b> NONE / PFB<br><b>** FOREIGN APPLICATIONS *****</b> NONE / PFB<br><b>** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ***</b> SMALL ENTITY **<br>07/31/2008       |                                                                                                                   |                                                          |                               |                                                                                                                                                                                                                                                                           |                           |                                |
| Foreign Priority claimed <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>35 USC 119(a-d) conditions met <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>Verified and /PATRICK F<br>BRINSON/<br>Acknowledged Examiner's Signature |                                                                                                                   | <input type="checkbox"/> Met after Allowance<br>Initials | <b>STATE OR COUNTRY</b><br>TX | <b>SHEETS DRAWINGS</b><br>5                                                                                                                                                                                                                                               | <b>TOTAL CLAIMS</b><br>20 | <b>INDEPENDENT CLAIMS</b><br>3 |
| <b>ADDRESS</b><br>LAW OFFICE OF DAVID MCEWING<br>P.O. BOX 231324<br>HOUSTON, TX 77023<br>UNITED STATES                                                                                                                                                                         |                                                                                                                   |                                                          |                               |                                                                                                                                                                                                                                                                           |                           |                                |
| <b>TITLE</b><br>TEAR CORD FOR JACKETED TUBE                                                                                                                                                                                                                                    |                                                                                                                   |                                                          |                               |                                                                                                                                                                                                                                                                           |                           |                                |
| <b>FILING FEE RECEIVED</b><br>435                                                                                                                                                                                                                                              | FEES: Authority has been given in Paper<br>No. _____ to charge/credit DEPOSIT ACCOUNT<br>No. _____ for following: |                                                          |                               | <input type="checkbox"/> All Fees<br><input type="checkbox"/> 1.16 Fees (Filing)<br><input type="checkbox"/> 1.17 Fees (Processing Ext. of time)<br><input type="checkbox"/> 1.18 Fees (Issue)<br><input type="checkbox"/> Other _____<br><input type="checkbox"/> Credit |                           |                                |

|                                                                                                                    |                                            |                                                                   |
|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------|-------------------------------------------------------------------|
| <b><i>Index of Claims</i></b><br> | <b>Application/Control No.</b><br>12178246 | <b>Applicant(s)/Patent Under Reexamination</b><br>TORRANCE ET AL. |
|                                                                                                                    | <b>Examiner</b><br>Patrick F Brinson       | <b>Art Unit</b><br>3754                                           |

|   |                 |   |                   |   |                     |   |                 |
|---|-----------------|---|-------------------|---|---------------------|---|-----------------|
| ✓ | <b>Rejected</b> | - | <b>Cancelled</b>  | N | <b>Non-Elected</b>  | A | <b>Appeal</b>   |
| = | <b>Allowed</b>  | ÷ | <b>Restricted</b> | I | <b>Interference</b> | O | <b>Objected</b> |

| <input type="checkbox"/> Claims renumbered in the same order as presented by applicant |          |   |            |  |  |  |  |  |  | <input type="checkbox"/> CPA |  |  |  |  |  |  |  |  |  | <input type="checkbox"/> T.D. |  |  |  |  |  |  |  |  |  | <input type="checkbox"/> R.1.47 |  |  |  |  |  |  |  |  |  |
|----------------------------------------------------------------------------------------|----------|---|------------|--|--|--|--|--|--|------------------------------|--|--|--|--|--|--|--|--|--|-------------------------------|--|--|--|--|--|--|--|--|--|---------------------------------|--|--|--|--|--|--|--|--|--|
| CLAIM                                                                                  |          |   | DATE       |  |  |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |                               |  |  |  |  |  |  |  |  |  |                                 |  |  |  |  |  |  |  |  |  |
| Final                                                                                  | Original |   | 03/02/2009 |  |  |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |                               |  |  |  |  |  |  |  |  |  |                                 |  |  |  |  |  |  |  |  |  |
|                                                                                        | 1        | ✓ |            |  |  |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |                               |  |  |  |  |  |  |  |  |  |                                 |  |  |  |  |  |  |  |  |  |
|                                                                                        | 2        | O |            |  |  |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |                               |  |  |  |  |  |  |  |  |  |                                 |  |  |  |  |  |  |  |  |  |
|                                                                                        | 3        | O |            |  |  |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |                               |  |  |  |  |  |  |  |  |  |                                 |  |  |  |  |  |  |  |  |  |
|                                                                                        | 4        | ✓ |            |  |  |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |                               |  |  |  |  |  |  |  |  |  |                                 |  |  |  |  |  |  |  |  |  |
|                                                                                        | 5        | O |            |  |  |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |                               |  |  |  |  |  |  |  |  |  |                                 |  |  |  |  |  |  |  |  |  |
|                                                                                        | 6        | ✓ |            |  |  |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |                               |  |  |  |  |  |  |  |  |  |                                 |  |  |  |  |  |  |  |  |  |
|                                                                                        | 7        | ✓ |            |  |  |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |                               |  |  |  |  |  |  |  |  |  |                                 |  |  |  |  |  |  |  |  |  |
|                                                                                        | 8        | ✓ |            |  |  |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |                               |  |  |  |  |  |  |  |  |  |                                 |  |  |  |  |  |  |  |  |  |
|                                                                                        | 9        | ✓ |            |  |  |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |                               |  |  |  |  |  |  |  |  |  |                                 |  |  |  |  |  |  |  |  |  |
|                                                                                        | 10       | O |            |  |  |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |                               |  |  |  |  |  |  |  |  |  |                                 |  |  |  |  |  |  |  |  |  |
|                                                                                        | 11       | ✓ |            |  |  |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |                               |  |  |  |  |  |  |  |  |  |                                 |  |  |  |  |  |  |  |  |  |
|                                                                                        | 12       | O |            |  |  |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |                               |  |  |  |  |  |  |  |  |  |                                 |  |  |  |  |  |  |  |  |  |
|                                                                                        | 13       | ✓ |            |  |  |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |                               |  |  |  |  |  |  |  |  |  |                                 |  |  |  |  |  |  |  |  |  |
|                                                                                        | 14       | ✓ |            |  |  |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |                               |  |  |  |  |  |  |  |  |  |                                 |  |  |  |  |  |  |  |  |  |
|                                                                                        | 15       | ✓ |            |  |  |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |                               |  |  |  |  |  |  |  |  |  |                                 |  |  |  |  |  |  |  |  |  |
|                                                                                        | 16       | O |            |  |  |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |                               |  |  |  |  |  |  |  |  |  |                                 |  |  |  |  |  |  |  |  |  |
|                                                                                        | 17       | O |            |  |  |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |                               |  |  |  |  |  |  |  |  |  |                                 |  |  |  |  |  |  |  |  |  |
|                                                                                        | 18       | ✓ |            |  |  |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |                               |  |  |  |  |  |  |  |  |  |                                 |  |  |  |  |  |  |  |  |  |
|                                                                                        | 19       | ✓ |            |  |  |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |                               |  |  |  |  |  |  |  |  |  |                                 |  |  |  |  |  |  |  |  |  |
|                                                                                        | 20       | ✓ |            |  |  |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |                               |  |  |  |  |  |  |  |  |  |                                 |  |  |  |  |  |  |  |  |  |

## EAST Search History

| Ref # | Hits    | Search Query                                                                                            | DBs                                      | Default Operator | Plurals | Time Stamp          |
|-------|---------|---------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|---------|---------------------|
| L2    | 6       | ("4289375"   "4392014"   "4643865"   "4894281"   "5031996"   "5138683").PN.                             | US-PGPUB;<br>USPAT; USOCR                | OR               | ON      | 2009/03/01<br>19:25 |
| L3    | 13257   | (rip or pull or tear) with cord                                                                         | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR               | ON      | 2009/03/01<br>19:25 |
| L4    | 3911745 | tube or hose or conduit or pipe                                                                         | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR               | ON      | 2009/03/01<br>19:26 |
| L5    | 1992907 | insulat\$3                                                                                              | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR               | ON      | 2009/03/01<br>19:26 |
| L6    | 641     | 3 and 4 and 5                                                                                           | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR               | ON      | 2009/03/01<br>19:26 |
| L7    | 35843   | "138"/\$.ccls.                                                                                          | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR               | ON      | 2009/03/01<br>19:26 |
| L8    | 5       | 6 and 7                                                                                                 | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR               | ON      | 2009/03/01<br>19:26 |
| L9    | 45      | 305/109.ccls.                                                                                           | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR               | ON      | 2009/03/01<br>19:33 |
| L10   | 697     | 385/109.ccls.                                                                                           | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR               | ON      | 2009/03/01<br>19:34 |
| L11   | 60      | 3 and 10                                                                                                | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR               | ON      | 2009/03/01<br>19:35 |
| L12   | 7       | ("20020024424"   "20030141097"   "20030202758"   "20030228116"   "5574816"   "6584251"   "6882784").PN. | US-PGPUB;<br>USPAT; USOCR                | OR               | ON      | 2009/03/01<br>19:39 |
| L13   | 226     | 385/110.ccls.                                                                                           | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR               | ON      | 2009/03/01<br>19:46 |
| L14   | 19      | 3 and 13                                                                                                | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR               | ON      | 2009/03/01<br>19:46 |

|     |        |                      |                                          |    |    |                     |
|-----|--------|----------------------|------------------------------------------|----|----|---------------------|
| L15 | 163287 | metal with tube      | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR | ON | 2009/03/01<br>19:49 |
| L16 | 10     | 3 with 15            | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR | ON | 2009/03/01<br>19:49 |
| L17 | 178095 | steel with alloys    | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR | ON | 2009/03/01<br>19:54 |
| L18 | 193675 | 3 anf 17             | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR | ON | 2009/03/01<br>19:54 |
| L19 | 228    | 3 and 17             | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR | ON | 2009/03/01<br>19:54 |
| L20 | 44688  | convey\$3 with fluid | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR | ON | 2009/03/01<br>19:58 |
| L21 | 50     | 3 and 20             | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR | ON | 2009/03/01<br>19:58 |
| L22 | 1405   | 138/149.ccls.        | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR | ON | 2009/03/01<br>20:00 |
| L23 | 646    | 138/110.ccls.        | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR | ON | 2009/03/01<br>20:00 |
| L24 | 1986   | 22 or 23             | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR | ON | 2009/03/01<br>20:00 |
| L25 | 3      | 3 and 24             | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR | ON | 2009/03/01<br>20:01 |
| L26 | 172    | Dundas.in.           | US-PGPUB;<br>USPAT; EPO;<br>JPO; DERWENT | OR | ON | 2009/03/01<br>20:06 |

3/ 1/ 09 8:08:59 PM

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Substitute for form 1449/PTO

*(Use as many sheets as necessary)*

1

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f 1

Application Number

Filing Date

7-23-08

|                      |  |
|----------------------|--|
| First Named Inventor |  |
|----------------------|--|

|          |
|----------|
| Art Unit |
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|               |
|---------------|
| Examiner Name |
|---------------|

|                        |
|------------------------|
| Attorney Docket Number |
|------------------------|

GCDT-01

U. S. PATENT DOCUMENTS

## FOREIGN PATENT DOCUMENTS

Examiner  
Signature

/Patrick F. Brinson/

|            |  |
|------------|--|
| Date       |  |
| Considered |  |

2/28/2009

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 801.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language. Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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|                                                                                                              |                                                |                                                                       |
|--------------------------------------------------------------------------------------------------------------|------------------------------------------------|-----------------------------------------------------------------------|
| <b>Search Notes</b><br><br> | <b>Application/Control No.</b><br><br>12178246 | <b>Applicant(s)/Patent Under Reexamination</b><br><br>TORRANCE ET AL. |
|                                                                                                              | <b>Examiner</b><br><br>Patrick F Brinson       | <b>Art Unit</b><br><br>3754                                           |

| SEARCHED |                    |          |          |
|----------|--------------------|----------|----------|
| Class    | Subclass           | Date     | Examiner |
| 138      | 110, 149, 114, 116 | 3/2/2009 | PFB      |
| 385      | 109, 108, 110      | 3/2/2009 | PFB      |
| 174      | 102R, 36           | 3/2/2009 | PFB      |

| SEARCH NOTES |          |          |
|--------------|----------|----------|
| Search Notes | Date     | Examiner |
| EAST         | 3/2/2009 | PFB      |

| INTERFERENCE SEARCH |          |      |          |
|---------------------|----------|------|----------|
| Class               | Subclass | Date | Examiner |
|                     |          |      |          |

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|-----------------------|--------------------------|-----------------|---------------|-----------------|------------|------------|
| 12/178,246            | 07/23/2008               | 3754            | 435           | GCDT-01         | 20         | 3          |

CONFIRMATION NO. 5950

26328  
LAW OFFICE OF DAVID MCEWING  
P.O. BOX 231324  
HOUSTON, TX 77023

FILING RECEIPT



\*OC000000031306383\*

Date Mailed: 08/04/2008

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

**Applicant(s)**

Roy Torrance, Houston, TX;  
Jody James, Pearland, TX;

**Power of Attorney:** The patent practitioners associated with Customer Number 26328

**Domestic Priority data as claimed by applicant**

**Foreign Applications**

**If Required, Foreign Filing License Granted:** 07/31/2008

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 12/178,246**

**Projected Publication Date:** 01/28/2010

**Non-Publication Request:** No

**Early Publication Request:** No

**\*\* SMALL ENTITY \*\***

**Title**

TEAR CORD FOR JACKETED TUBE

**Preliminary Class**

138

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| Electronic Patent Application Fee Transmittal |          |                             |        |                      |
|-----------------------------------------------|----------|-----------------------------|--------|----------------------|
| Application Number:                           |          |                             |        |                      |
| Filing Date:                                  |          |                             |        |                      |
| Title of Invention:                           |          | TEAR CORD FOR JACKETED TUBE |        |                      |
| First Named Inventor/Applicant Name:          |          | Roy Torrance                |        |                      |
| Filer:                                        |          | David Lee McEwing           |        |                      |
| Attorney Docket Number:                       |          | GCDT-01                     |        |                      |
| Filed as Small Entity                         |          |                             |        |                      |
| <b>Utility      Filing Fees</b>               |          |                             |        |                      |
| Description                                   | Fee Code | Quantity                    | Amount | Sub-Total in USD(\$) |
| <b>Basic Filing:</b>                          |          |                             |        |                      |
| Utility filing Fee (Electronic filing)        | 4011     | 1                           | 75     | 75                   |
| Utility Search Fee                            | 2111     | 1                           | 255    | 255                  |
| Utility Examination Fee                       | 2311     | 1                           | 105    | 105                  |
| <b>Pages:</b>                                 |          |                             |        |                      |
| <b>Claims:</b>                                |          |                             |        |                      |
| <b>Miscellaneous-Filing:</b>                  |          |                             |        |                      |
| <b>Petition:</b>                              |          |                             |        |                      |
| <b>Patent-Appeals-and-Interference:</b>       |          |                             |        |                      |

| Description                       | Fee Code | Quantity | Amount | Sub-Total in USD(\$) |
|-----------------------------------|----------|----------|--------|----------------------|
| Post-Allowance-and-Post-Issuance: |          |          |        |                      |
| Extension-of-Time:                |          |          |        |                      |
| Miscellaneous:                    |          |          |        |                      |
| Total in USD (\$)                 |          |          |        | 435                  |

| Electronic Acknowledgement Receipt          |                             |
|---------------------------------------------|-----------------------------|
| <b>EFS ID:</b>                              | 3664879                     |
| <b>Application Number:</b>                  | 12178246                    |
| <b>International Application Number:</b>    |                             |
| <b>Confirmation Number:</b>                 | 5950                        |
| <b>Title of Invention:</b>                  | TEAR CORD FOR JACKETED TUBE |
| <b>First Named Inventor/Applicant Name:</b> | Roy Torrance                |
| <b>Customer Number:</b>                     | 26328                       |
| <b>Filer:</b>                               | David Lee McEwing           |
| <b>Filer Authorized By:</b>                 |                             |
| <b>Attorney Docket Number:</b>              | GCDT-01                     |
| <b>Receipt Date:</b>                        | 23-JUL-2008                 |
| <b>Filing Date:</b>                         |                             |
| <b>Time Stamp:</b>                          | 16:02:37                    |
| <b>Application Type:</b>                    | Utility under 35 USC 111(a) |

### Payment information:

|                                          |             |
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| Submitted with Payment                   | yes         |
| Payment Type                             | Credit Card |
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|                                                 |                                              |                       |                                          |    |   |
|-------------------------------------------------|----------------------------------------------|-----------------------|------------------------------------------|----|---|
| 1                                               | Specification                                | specificationCUTE.pdf | 7812806                                  | no | 7 |
|                                                 |                                              |                       | 7e93fc3b96b72020a80978a25be1554c08bd53f  |    |   |
| Warnings:                                       |                                              |                       |                                          |    |   |
| Information:                                    |                                              |                       |                                          |    |   |
| 2                                               | Claims                                       | claimsCUTE.pdf        | 1649031                                  | no | 2 |
|                                                 |                                              |                       | 44a81c21b918c29673f917cf211266b0c74b3210 |    |   |
| Warnings:                                       |                                              |                       |                                          |    |   |
| Information:                                    |                                              |                       |                                          |    |   |
| 3                                               | Abstract                                     | abstractCUTE.pdf      | 397116                                   | no | 1 |
|                                                 |                                              |                       | ff9ab67535729cc23ed163250ba48c56f7dbdeef |    |   |
| Warnings:                                       |                                              |                       |                                          |    |   |
| Information:                                    |                                              |                       |                                          |    |   |
| 4                                               | Drawings-only black and white line drawings  | drawingsCUTE.pdf      | 1692096                                  | no | 5 |
|                                                 |                                              |                       | 5e5e971fc55d7060d82eed21cdc0b66b4c30c361 |    |   |
| Warnings:                                       |                                              |                       |                                          |    |   |
| Information:                                    |                                              |                       |                                          |    |   |
| 5                                               | Oath or Declaration filed                    | declarationCUTE.pdf   | 2351016                                  | no | 2 |
|                                                 |                                              |                       | a3a036ead897b5951fa1093c523f97598bd56ee7 |    |   |
| Warnings:                                       |                                              |                       |                                          |    |   |
| Information:                                    |                                              |                       |                                          |    |   |
| 6                                               | Information Disclosure Statement (IDS) Filed | idsCUTE.pdf           | 1705759                                  | no | 1 |
|                                                 |                                              |                       | 6af507d9f27bcc3df82cfd73867721490c2e2c9c |    |   |
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If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

**Complete if Known**

*(Use as many sheets as necessary)*

Attorney Docket Number

Attorney Docket Number

7-23-08

GCDT-01

U. S. PATENT DOCUMENTS

**FOREIGN PATENT DOCUMENTS**

| Date     | Considered |
|----------|------------|
| 11/1/78  | 11/1/78    |
| 11/2/78  | 11/2/78    |
| 11/3/78  | 11/3/78    |
| 11/4/78  | 11/4/78    |
| 11/5/78  | 11/5/78    |
| 11/6/78  | 11/6/78    |
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## TITLE

### TEAR CORD FOR JACKETED TUBE

## BACKGROUND TO THE DISCLOSURE

### 1. Field of Use

The disclosure pertains to tubes used in hydrocarbon production down hole environments.

### 2. Related Art

Tear cords incorporated with electrical wires and fiber optic cables are known. See for example US Patent 5,469,523.

## SUMMARY OF DISCLOSURE

The disclosure pertains to installing a tear cord between a solid wall metal tube (hereinafter "tube") and a protective jacket. The jacketed tubes may be used in a hydrocarbon production downhole well bore or in gas or water injector downhole well bores.

## SUMMARY OF DRAWINGS

The accompanying drawings, which are incorporated in and constitute a part of the specification, illustrate preferred embodiments of the invention. These drawings, together with the general description of the invention given above and the detailed description of the preferred embodiments given below, serve to explain the principles of the invention.

Figure 1 illustrates a single tube with a protective jacket and tear cord.

Figure 2 illustrates two tubes within a protective jacket.

Figure 3 illustrates 3 tubes of two separate diameters. The two smaller diameter tubes have two separate jackets over an inner wire or fiber.

Figure 4 illustrates a tear cord helically wound on a tube.

Figure 5 illustrates a cable comprising twisted steel bumpers or stand protecting a jacketed tube with tear cords.

### DETAILED DESCRIPTION OF DISCLOSURE

The disclosure pertains to a tear cord used to conveniently and safely remove a protective jacket surrounding a solid wall metal tube. The combined jacket and tube may be used in downhole applications related to the production of hydrocarbons. This includes gas or water injector downhole well bores.

Referencing Figure 1, the tubes 1 are jacketed in one or more layers 2 of hard thermoplastic rubber or similar toughened and inert material to protect the tube and contents from the heat and corrosive environment of a well bore. The jacket also provides protection during installation and other events that may occur during operation of the well. The tubing may be placed inside the well casing and outside the production pipe. The jacketed tubes may be spoolable.

The protective jackets are difficult and dangerous to cut or slit with a knife blade. This can also result in the outer tube sealing surface being nicked or gouged. Other methods use specialized tools such as an Encapsulation Stripping Tool manufactured by Tube Tec of Stonehaven, UK. The tool comprises rotating knife blades enclosed within a housing. The blades are mechanically controlled to not contact the metal tube. The tool may be manually operated or powered with air. Another tool for removing encapsulating protective jackets is manufactured by AnTech of Exeter, UK. Both Tube Tec and AnTech supply tools with stands and hand cranks and are promoted as reducing injury to the operator stripping the encapsulation jacket.

The tube may comprise steel alloys such as but not limited to stainless steel, incoloy (an alloy comprising nickel-iron-chromium), duplex alloy, carbon steel, or galvanized carbon steel.

The tubing may vary in diameter from 1/8 inch to in excess of 1 inch. The tube wall thickness may be between 0.016 inch (or smaller) to 0.083 inch. The tubing walls are smooth and solid. The tubing has an annular or duct-like structure 30 as illustrated in Figure 1.

The tubing may be used to convey chemicals and hydraulic fluids. Examples of chemicals conveyed through the tubing include water based glycol mixture during the initial drilling phase. During the well production phase,

hydrates and asphaltines are pumped to reduce paraffin build up. Other chemicals include low dosage hydrate inhibitors, methanol ethylene glycol, ethanol and propanol.

The contents of the tubing may be under pressure or vacuum. The tubing may also contain an electrical power, electronic data transmission or fiber optic lines.

The sealing surface of the tubing is of prime importance, i.e., the wall of the tubing is to be free from nicks and gouges. This type of damage can result from use of a knife or other sharp edge instrument to cut away the protective jacket. In addition, this work is frequently performed on the floor of a drill rig. There are stringent safety standards imposed in this work environment making use of a knife or other open blade tools problematic.

The outer surface of the tube is required to be free from nicks and gouges since the tube connections can be made using compression fittings. If a nick or gouge extends into the surface deeper than the compression achieved by the ferrule of the compression fitting, a leak pathway is created. Such a defect may result in the fitting being over tightened, resulting in further deformation of the tubing. For example, the tubing may pass through an equipment housing. The connection of the tubing with the housing will utilize a compression fitting. Deformation of the tubing surface may compromise the seal of the compression fitting intended to block fluids or contaminants from entering the housing even if the tubing wall is not breached.

Gouges and nicks may also penetrate the tube wall. For example, if the tube is conveying hydraulic fluid, there will be a pressure loss. If the tubing is conveying chemicals, there will be likely contamination of the product or well completion fluid.

In some applications, the encapsulating protective jacket needs to be cut away from the tubing metal surface to allow a connection to be made in the tubing. The tubing will be required to be hermetically sealed and requires the insertion of ferrules or sleeves as part of the mechanical connection hardware in direct contact with the metal tube surface. Therefore the integrity of the tubing

diameter and good uniform sealing surface is important in making a hermetically sealed connection.

The proper handling and use of correct tools to remove the encapsulating jacket are important. Typically 6 to 12 inches of the jacket may be removed. However, on occasion, significantly greater lengths are removed, e.g., lengths in excess of 100 feet.

The encapsulating protective jacket may comprise polyamide (nylon) polyethylene, polypropylene, ethylene chlorotrifluoroethylene (Halar), engineering thermoplastic vulcanates (ETPV) or a thermoplastic elastomer cross linking ethylene propylene diene monomer rubber and polypropylene (Santoprene). It may also comprise perfluoroalkoxy (Teflon PFA), polyvinylidene fluoride (PVDF) or fluorinated ethylene propylene (Teflon FEP) Polyetheretherketone (PEEK), or similar material.

For these and other reasons, this disclosure teaches use of a tear cord placed between the tube and the protective jacket. This allows the worker to pull back the tear cord and thereby create a slit in the jacket. With the jacket split to the desired length, i.e. for placement of a compression fitting, the worker can manually pull away the jacket. The jacket material that has been pulled off can be cut off using scissors, side cutter pliers, or other tools not containing an open blade.

Some tubing may be protected in an individual jacket and a group of such tubes then encased into a single outer jacket. This group may comprise 2 to 5 individual tubes. The group of tubes may be protected by multiple jackets. The tubes may be of differing diameter. This outer jacket may be flat, i.e., the tubes are stacked one on top of the other, thereby minimizing the width that will be taken up in a well bore. (See for example figure 3.) Special tooling may be installed with the well casing or on the outer surface of the production tubing to create channels or pathways holding the tubing cable.

Referencing Figure 1, the disclosure teaches placing a tear cord 3 adjacent to the tube 1 under the protective jacket 2. Referencing Figure 3, in one

embodiment at least one tear cord **13, 14, 15** is placed between the outer flat jacket **12** and each individual tube **9, 10, 11**.

The tear cord (sometimes referred to as a rip cord), can be oriented along longitudinal axis of the tube or wound in a helical pattern around the tube. This helical winding pattern is illustrated in Figure 4 and may be particularly useful for cable consisting of a single tube with a protective jacket. Figure 4 illustrates the encapsulating protective jacket **42** surrounding the tube **43** and the tear cord **44** between the tube and the jacket. The helical pattern facilitates removal of the jacket. The angled slit created in the jacket provides an edge that can easily be pulled from the end around and away from the tubing.

The tear cord can be a metal wire or other strong material such as Kevlar, a poly-aramid synthetic fiber. A Kevlar fiber is advantageous since the multiple fiber strands compress flat against the tubing or inner jacket, thereby not distorting the circumference of the outer jacket.

An advantage of a metal wire used as a tear cord is that the wire can be heated, thereby softening the jacket material to facilitate tearing the wire through the softened jacket. It will be appreciated that the jacket material needs to plasticize so that it can be sheared with the wire at a temperature below the melting point of the metal wire. This method may advantageously use an inner jacket to shield the tubing from heat.

In another embodiment, the tear cord is installed between the tube(s) and the protective jacket in selected locations in contrast to continuously along the length of the cable. This saves the cost and weight of materials that are not needed. For example, a tear cord may be installed in the first 100 feet and last 100 feet of a length of cable installed in between the well casing and the production tubing. The manufacturing process could mark the outside of the protective jacket to indicate the presence of a tear cord. This could be as simple as a painted line.

The use of hermetically sealing compression fittings allows the interior of the tube to maintain a positive atmosphere and thereby retard the infiltration of

contaminants or fluid. Such contaminants or fluid may interfere with the signal or conductivity of a fiber optic or electrical wire.

Figure 1 illustrates a single tube **1** with a protective jacket. The jacket **2** is illustrated. Also illustrated is the tear cord **3** which is installed between the jacket and the tube.

Figure 2 illustrates a pair of tubes **4, 5** encased by a single jacket **6**. There are two tear cords **7, 8**. Each tear cord is associated with a single tube.

Figure 3 illustrates a 3 tube flat pack. The tubes **9, 10, 11**, are encased in a rectangular jacket **12**. There are individual tear cords **13, 14, 15** installed between each tube **9, 10, 11** and the surrounding jacket **12**. One tube **11** is protected by two separate jackets **12, 23**. In this embodiment, separate tear cords **15, 22** are installed for each jacket layer.

Continuing with Figure 3, the inner coverings within the smaller diameter tubes **9, 10** can provide mechanical support **16** and the innermost layer providing electrical insulation **18** for the wire or fiber optic cable **20, 21**. These additional layers may be, for example, foam, or polyethylene or polypropylene. As indicated, the inner fiber may be a fiber optic cable or it may be a wire carrying electrical power or a data transmission line.

Figure 4 illustrates a single tube **43** with a tear cord **44** wound helically beneath a protective jacket **42**. It will be appreciated that the helically wound embodiment would work with other tube and jacketing configurations, including the double tube configuration illustrated in Figure 2 and the triple tube configuration of Figure 3.

Figure 5 illustrates 2 jacketed tubes **33, 34** combined with two strands of steel rope or strand **31, 32**. The steel rope may be dimensioned to provide protection to the tube against crushing forces as well as weight support of the tube in a vertical downhole environment. Also illustrated are tear cords **38, 39, 40, 41** installed adjacent to the tube and to each steel rope. Also illustrated one tube **34** containing a wire or fiber optic cable surrounded by insulation **36** and structural support **35**. It will be appreciated that both layers, installed inside the tube, may act as insulators.

In addition, this specification is to be construed as illustrative only and is for the purpose of teaching those skilled in the art the manner of carrying out the invention. It is to be understood that the forms of the invention herein shown and described are to be taken as the presently preferred embodiments. As already stated, various changes may be made in the shape, size and arrangement of components or adjustments made in the steps of the method without departing from the scope of this invention. For example, equivalent elements may be substituted for those illustrated and described herein and certain features of the invention may be utilized independently of the use of other features, all as would be apparent to one skilled in the art after having the benefit of this description of the invention.

While specific embodiments have been illustrated and described, numerous modifications are possible without departing from the spirit of the invention, and the scope of protection is only limited by the scope of the accompanying claims.

### CLAIMS

1. A metal tube comprising a first encapsulating protective jacket around a solid wall metal tube and a tear cord between the said jacket and the said tube.
2. The tube of claim 1 wherein the tube conveys hydraulic fluid.
3. The tube of claim 1 wherein the tube conveys chemicals.
4. The tube of claim 1 wherein the jacket comprises polyamide, polyethylene, ethylene chlorotrifluoroethylene or a thermoplastic elastomer cross linking ethylene propylene diene monomer rubber and polypropylene.
5. The tube of claim 1 wherein the jacket comprises engineered thermoplastic vulcanates, perfluoroalkoxy, polyvinylidene fluoride or fluorinated ethylene propylene.
6. The tube of claim 1 further comprising a tear cord made of poly-aramid fiber.
7. The tube of claim 1 further comprising incoloy, stainless steel, carbon steel, or galvanized carbon steel.
8. The tube of claim 1 further comprising a second inner jacket surrounding the tube.
9. The tube of claim 1 further comprising a tear cord made of metal.
10. The tube of claim 1 wherein the tear cord is helically wound around the tube or an inner jacket surrounding the tube.
11. The tube of claim 1 further comprising a tear cord placed at a selected location on the length of the tube.
12. The tube of claim 1 further comprising one or more steel ropes each with a tear cord wherein the rope has the same axis of orientation as the tube.
13. The tube of claim 1 further comprising a jacket of one or more of a group consisting of polyethylene, ethylene chlorotrifluoroethylene, a thermoplastic elastomer cross linking ethylene propylene diene monomer rubber and polypropylene, perfluoroalkoxy, polyvinylidene fluoride and fluorinated ethylene propylene.

14. A cable comprising of a plurality of solid wall metal tubes, a plurality of tear cords, and a jacket.
15. The cable of claim 14 further comprising at least one tube containing a fiber optic cable, electrical wire or data communication cable.
16. The cable of claim 15 further comprising at least one tube conveying hydraulic fluid.
17. The cable of claim 15 further comprising at least one tube conveying chemicals.
18. A method of conveying liquids into a well bore comprising:
  - i. placing a tear cord adjacent to a first spoolable, smooth, solid wall tube;
  - ii. jacketing the tear cord and first tubing with a first layer of polyethylene, ethylene chlorotrifluoroethylene, a thermoplastic elastomer cross linking ethylene propylene diene monomer rubber and polypropylene, perfluoroalkoxy, polyvinylidene fluoride or fluorinated ethylene propylene.
19. The method of claim 18 further comprising placing a tear cord adjacent to at least one first jacketed tube and covering the first jacket with a second jacket.
20. The method of claim 18 further comprising placing the tear cord at a selected location on the tube.

### ABSTRACT

The disclosure pertains to installing a tear cord between a metal tube and a protective jacket. The jacketed tubes may be used in a hydrocarbon production downhole well bore. The tubes may be used to furnish hydraulic fluid or chemicals into the well bore. The contents may be pressurized or under vacuum. The jacketed tubes are hermetically sealed. The tubes, which may be 1 inch in diameter, are joined using compression fittings. Tear cords are used to facilitate removal of the protective jacket without damage to the tube surface thereby facilitating the placement of compression fittings and maintaining the integrity of the tube wall.

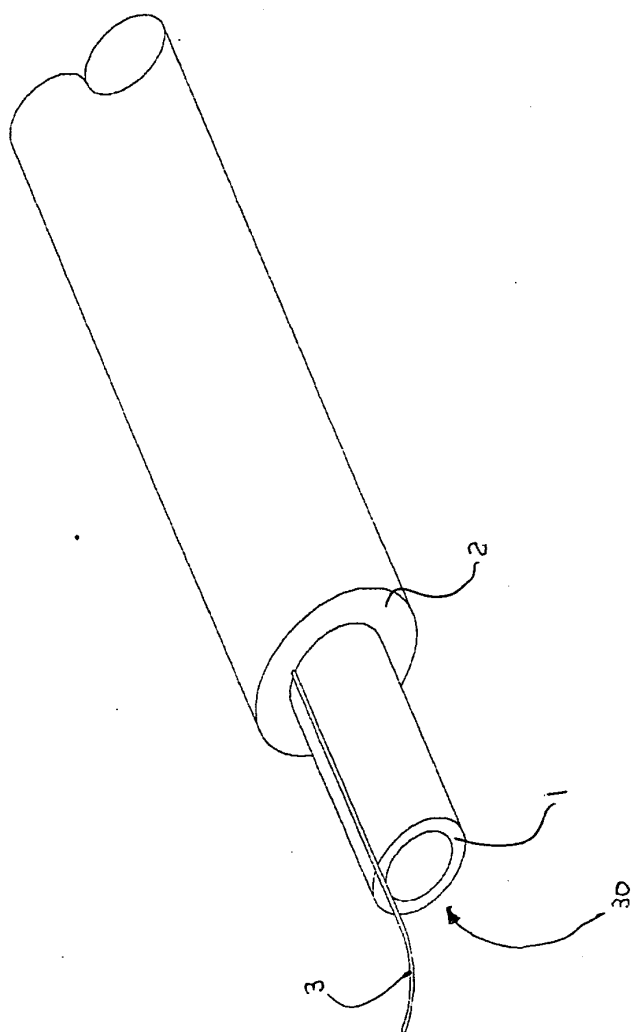


Figure 1

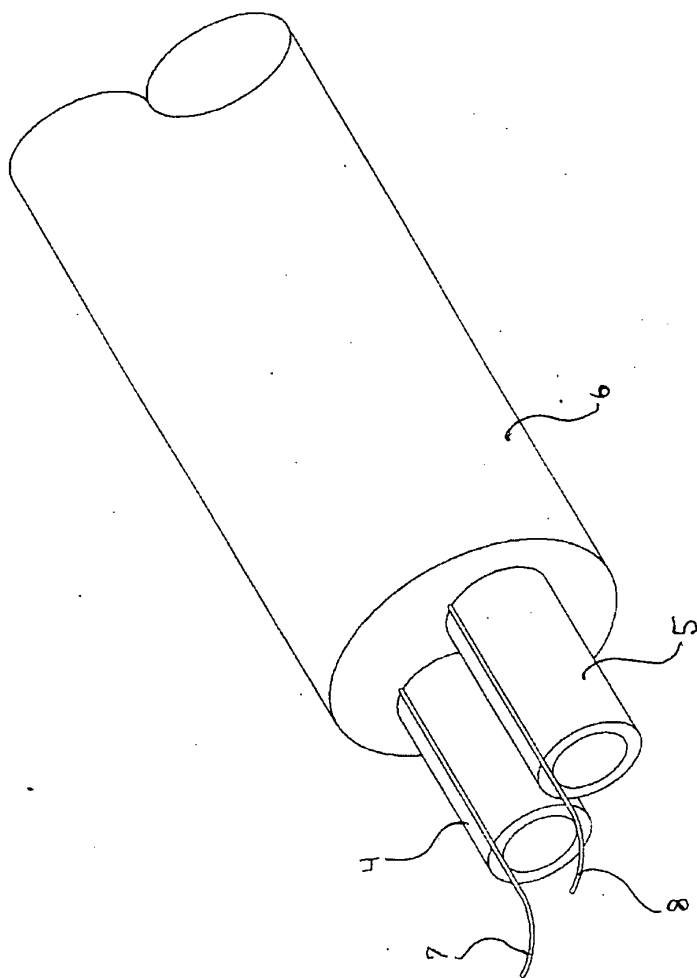


Figure 2

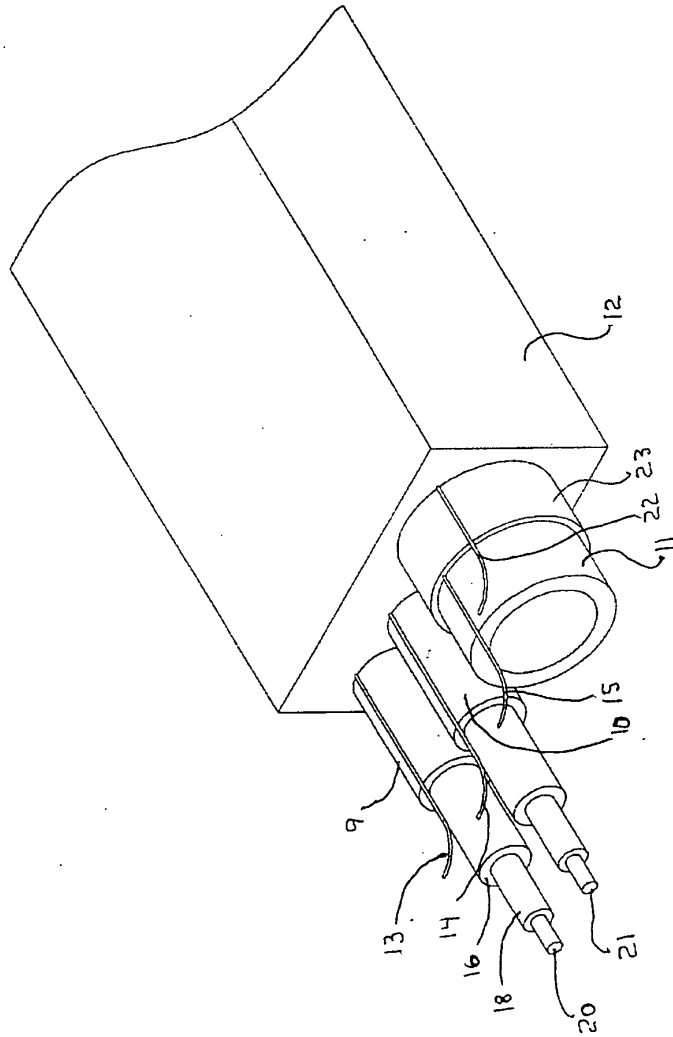


Figure 3

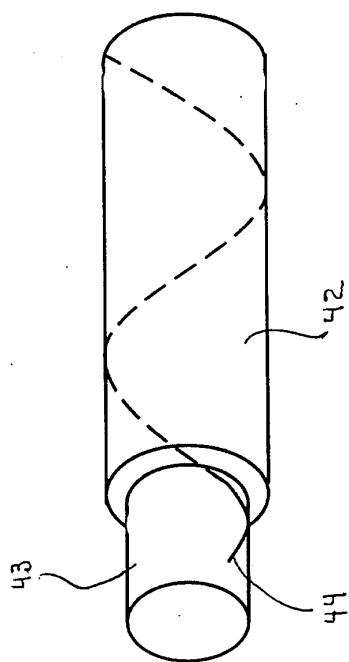


Figure 4

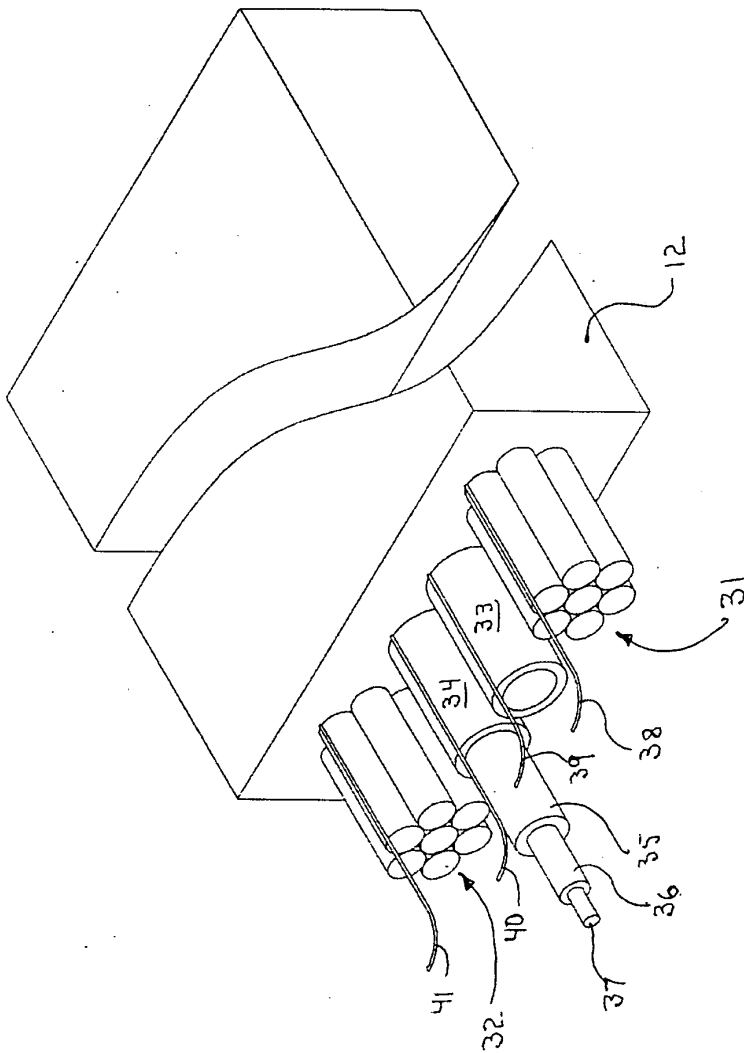


Figure 5

DECLARATION FOR UTILITY PATENT APPLICATION

I hereby declare that:

I believe the inventor named below to be the original and first inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled "Tear Cord for Jacketed Tube", the specification of which is attached hereto.

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose to the Office all information known to me to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby appoint the following attorney to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith, with full power of substitution and revocation:

David McEwing  
Law Office of David McEwing PC  
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Houston, Texas 77223

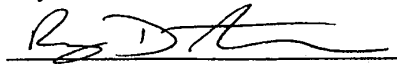
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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Inventor's Full Name: Roy Torrance

Inventor's Signature:



Country of Residence:

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Citizenship:

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# DECLARATION FOR UTILITY PATENT APPLICATION

I hereby declare that:

I believe the inventor named below to be the original and first inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled "Tear Cord for Jacketed Tube", the specification of which is attached hereto.

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose to the Office all information known to me to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby appoint the following attorney to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith, with full power of substitution and revocation:

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Inventor's Full Name: Jody James

Inventor's Signature:

Country of Residence:

United States

Citizenship: USA

Residence Address:

2620 Sleepy Hollow, Pearland, Tx 77581

Filing Date: 07/23/08

Approved for use through 7/31/2006. OMB 0651-0032

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| PATENT APPLICATION FEE DETERMINATION RECORD<br>Substitute for Form PTO-875                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                      |                                    |                 |              | Application or Docket Number<br><b>12/178,246</b> |           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-----------------|--------------|---------------------------------------------------|-----------|
| <b>APPLICATION AS FILED – PART I</b>                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                      |                                    |                 |              |                                                   |           |
| (Column 1)                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                      | (Column 2)                         |                 | SMALL ENTITY |                                                   | OR        |
| OTHER THAN SMALL ENTITY                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                      |                                    |                 |              |                                                   |           |
| FOR                                                                                                                                                                                                                                                                                                                                                                                                                                  | NUMBER FILED                                                                                                                                                                                                         | NUMBER EXTRA                       | RATE (\$)       | FEE (\$)     | RATE (\$)                                         | FEE (\$)  |
| BASIC FEE<br>(37 CFR 1.16(a), (b), or (c))                                                                                                                                                                                                                                                                                                                                                                                           | N/A                                                                                                                                                                                                                  | N/A                                | N/A             | <b>75</b>    | N/A                                               |           |
| SEARCH FEE<br>(37 CFR 1.16(k), (l), or (m))                                                                                                                                                                                                                                                                                                                                                                                          | N/A                                                                                                                                                                                                                  | N/A                                | N/A             | <b>255</b>   | N/A                                               |           |
| EXAMINATION FEE<br>(37 CFR 1.16(o), (p), or (q))                                                                                                                                                                                                                                                                                                                                                                                     | N/A                                                                                                                                                                                                                  | N/A                                | N/A             | <b>105</b>   | N/A                                               |           |
| TOTAL CLAIMS<br>(37 CFR 1.16(i))                                                                                                                                                                                                                                                                                                                                                                                                     | <b>20</b>                                                                                                                                                                                                            | minus 20 = <b>0</b>                | X\$ 25          | <b>0</b>     | X\$50                                             |           |
| INDEPENDENT CLAIMS<br>(37 CFR 1.16(h))                                                                                                                                                                                                                                                                                                                                                                                               | <b>3</b>                                                                                                                                                                                                             | minus 3 = <b>0</b>                 | X\$105          | <b>0</b>     | X\$210                                            |           |
| APPLICATION SIZE FEE<br>(37 CFR 1.16(s))                                                                                                                                                                                                                                                                                                                                                                                             | If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$260 (\$130 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR |                                    |                 |              |                                                   |           |
| MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                      |                                    | 185             |              | 370                                               |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                      |                                    | TOTAL           | <b>435</b>   | TOTAL                                             | <b>0</b>  |
| * If the difference in column 1 is less than zero, enter "0" in column 2.                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                      |                                    |                 |              |                                                   |           |
| <b>APPLICATION AS AMENDED – PART II</b>                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                      |                                    |                 |              |                                                   |           |
| (Column 1)                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                      | (Column 2)                         |                 | (Column 3)   |                                                   |           |
| <b>AMENDMENT A</b>                                                                                                                                                                                                                                                                                                                                                                                                                   | CLAIMS REMAINING AFTER AMENDMENT                                                                                                                                                                                     | HIGHEST NUMBER PREVIOUSLY PAID FOR | PRESENT EXTRA   | SMALL ENTITY |                                                   | OR        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                      | Total<br>(37 CFR 1.16(i))                                                                                                                                                                                            | Minus **                           | =               | RATE (\$)    | ADDITIONAL FEE (\$)                               | RATE (\$) |
|                                                                                                                                                                                                                                                                                                                                                                                                                                      | Independent<br>(37 CFR 1.16(h))                                                                                                                                                                                      | Minus ***                          | =               | X =          |                                                   | X =       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                      | Application Size Fee (37 CFR 1.16(s))                                                                                                                                                                                |                                    |                 | X =          |                                                   | X =       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                      | FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))                                                                                                                                                      |                                    |                 | N/A          |                                                   | N/A       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                      |                                    | TOTAL ADD'T FEE |              | TOTAL ADD'T FEE                                   |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                      |                                    |                 |              |                                                   |           |
| (Column 1)                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                      | (Column 2)                         |                 | (Column 3)   |                                                   |           |
| <b>AMENDMENT B</b>                                                                                                                                                                                                                                                                                                                                                                                                                   | CLAIMS REMAINING AFTER AMENDMENT                                                                                                                                                                                     | HIGHEST NUMBER PREVIOUSLY PAID FOR | PRESENT EXTRA   | SMALL ENTITY |                                                   | OR        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                      | Total<br>(37 CFR 1.16(i))                                                                                                                                                                                            | Minus **                           | =               | RATE (\$)    | ADDITIONAL FEE (\$)                               | RATE (\$) |
|                                                                                                                                                                                                                                                                                                                                                                                                                                      | Independent<br>(37 CFR 1.16(h))                                                                                                                                                                                      | Minus ***                          | =               | X =          |                                                   | X =       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                      | Application Size Fee (37 CFR 1.16(s))                                                                                                                                                                                |                                    |                 | X =          |                                                   | X =       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                      | FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))                                                                                                                                                      |                                    |                 | N/A          |                                                   | N/A       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                      |                                    | TOTAL ADD'T FEE |              | TOTAL ADD'T FEE                                   |           |
| <p>* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.</p> <p>** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".</p> <p>*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".</p> <p>The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.</p> |                                                                                                                                                                                                                      |                                    |                 |              |                                                   |           |

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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